The MODERN HOSPITAL

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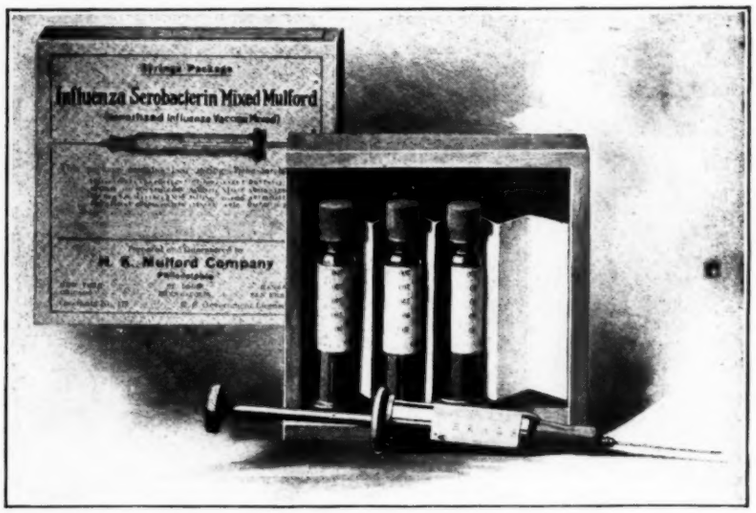

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THE MODERN HOSPITAL

A Monthly Journal Devoted to the Building, Equipment, and Administration of Hospitals, Sanatoriums, and Allied Institutions, and to their Medical, Surgical, and Nursing Services

Vol. VII *October, 1916* No. 4

THE HOSPITAL AND THE SURGEON[1]

The Making or Training of the Surgeon—The Selection of the Staff Surgeon—His Compensation—Promotion of Surgical Work—Regulation or Control of the Surgeon—Hospital Monopoly

By S. S. GOLDWATER, M. D., Superintendent Mt. Sinai Hospital, New York

THE purpose of this discussion of the relations between the hospital and the surgeon is to show how and to what extent surgical efficiency can be promoted by hospital organization and administration.

Francis Galton, who had two sisters, says in his autobiography that one was just and the other generous. When, as a child, they buttered his bread, one picked the butter out of the holes, while the other did not. On reviewing a preliminary outline of the present subject, I quickly determined to abandon the role of the generous sister, and to adopt that of the just one. The subject proved to be too many-sided to be treated fully in a single address, and so I have picked the butter out of the holes, and have thus succeeded, I trust, in reducing the discussion to reasonable limits.

With a view to the orderly presentation of the subject, I have adopted six subheadings, under each of which several related topics will be treated. These subheadings are (1) the making or training of the surgeon, (2) the selection of the surgeon, (3) his compensation, (4) the promotion of surgical work by means of organization and equipment, (5) the regulation or control of the surgeon, and (6) the question of "hospital monopoly."

In the selection of its intern staff, the hospital to a great extent determines who shall and who shall not receive surgical training. The intern of today is the visiting surgeon and the surgical consultant of tomorrow; the selection and training of hospital interns is, therefore, of fundamental importance. The choice of hospital interns ought to be directed by a prophetic insight, which is generally lacking in hospital committees. In the absence of trustworthy intuition, one is bound to exercise reasonable caution. It is certain that interns should not be assigned to their respective duties in the hospital in hit-or-miss fashion, but that their capacities, tendencies, and character should be carefully considered. After making the first departmental assignment, the hospital can do or leave undone much that is essential to proper surgical training.

The duration of the intern's service is important; a hospital may choose to give many men a smattering of surgical knowledge and a moderate degree of surgical skill, or it may train a few men thoroughly. The hospital which graduates a house surgeon in six months contributes little to surgical progress. At the other end of the scale is the hospital which, under a system of graduated promotions, keeps its residents indefinitely—a plan which has much to recommend it in individual instances, but the general adoption of which would unduly limit the privilege of surgical training. The middle course, which at present is followed by most hospitals in this country, provides for a period of training of not less than twelve and not more than twenty-four months.

No definite recommendation will here be made concerning the duration of surgical internship; I wish to lay stress on the quality of the training rather than its duration. For example, the intern whose aim is surgery should not have his attention directed to surgery exclusively at the outset

[1]Read before the eighteenth annual conference of the American Hospital Association, Philadelphia, September 26-29, 1916.

of his hospital career; the training of the surgeon-to-be should preferably be "mixed," including a period of service in medical wards. The medical point of view, once acquired, will not be readily discarded; as an asset to the surgeon, it is invaluable.

So much time is necessarily spent by the surgical staff in performing operations and treating wounds, that the more refined methods of diagnosis and observation which are more easily and more generally practiced in the medical wards are often neglected. The surgeon is frequently called on to treat a localized physical condition which is perfectly patent and which demands prompt operative relief; hence his characteristic habit of making a snap diagnosis, a method which, for surgical purposes, is often singularly effective. An abscess may advantageously be opened, or a hemorrhage successfully controlled, without an exhaustive inquiry into the patient's family history, and without the performance of searching clinical tests. The habit of rapid diagnosis may, however, be carried too far. Certainly it tends to preclude the more careful, deliberate, and thorough investigation which is often essential to the correct diagnosis of obscure or complicated pathological conditions, and which is more likely to be practiced by the visiting staff, and therefore learned by the intern, in the medical wards.

In ideal practice, a medical diagnostician would be associated with every busy surgeon. Under the ordinary conditions of private practice, such association is not always possible; the surgeon, consequently, must be not only operator, but diagnostician as well, and it is because, in after life, he will frequently carry this double responsibility, that the beginner should not be plunged too quickly into the alluring atmosphere of the operating room, where all the conditions favor quick decision and action, but should first be trained thoroughly in diagnostic investigation, an art which attains its highest development in the medical wards.

If it is true that the surgeon should have some preliminary training in medical diagnosis and therapy, it is no less true that his preliminary education should include a course in pathology. Since we are viewing the subject from the point of view of hospital administration, let me suggest that the hospital laboratory be thrown open as widely as possible to the surgical intern and the junior visiting surgeon. The provision of opportunities for the study of pathology by those who are ultimately to be the hospital's chief surgeons will prove to be a profitable investment.

The selection of an attending surgeon is rarely accomplished without criticism. The criticism of disappointed candidates and their friends cannot be avoided, and the appointing authority need not take such criticism too seriously if the selection has been made conscientiously. Just how to ascertain the relative merits of the candidates is a difficult question.

In Chicago the municipal hospital authorities have adopted the plan of holding a competitive examination, and of appointing as visiting surgeon the candidate who obtains the highest rating. At first blush such a plan appears to be impracticable, but experience has demonstrated that it is possible to make surgical appointments or other professional appointments of similar grade under civil service rules, provided the rules are wisely framed. The rating of the candidates must, of course, be left to competent persons. One of the highest developments of the merit system is the employment by civil service commissions of specially qualified examiners, expert in their respective fields.

A competitive examination, honestly conducted, will at least eliminate the totally unfit, a result which is by no means assured in municipal hospitals which are under unchecked partisan political control. It is just as practicable for civil service examiners as it is for private hospital boards to make proper allowance for personality, training, and for the diagnostic and operative skill shown in the past performances of the candidates; civil service examiners are under no compulsion to limit their attention to the candidate's ability to answer text-book questions.

Those who are disposed to regard the competitive system as impracticable are invited to compare the best results achieved under that system with the worst results obtained in municipalities where public and professional opinion has not been developed to the point of demanding a high quality of service in municipal hospitals, and where all checks on partisan abuse are absent. In the course of an official investigation of an important municipal hospital in 1913, the writer encountered an interesting case of stubborn rebellion on the part of the members of the house staff. The grievance of these men was that, after their appointment from the graduating class of the local medical school by means of a competitive examination, they found themselves suddenly confronted with a full-fledged visiting surgeon, formerly a member of their own class at medical school, *who had failed to qualify as an intern,* but whose political influence had been so potent as to accomplish his immediate elevation, with no preparation or fitness whatever, to the position of visiting surgeon. The indignation of this man's classmates was not without cause, nor their re-

bellion unjustified. To such a disgraceful and dangerous appointment the merit system presents an insuperable obstacle.

The possibilities inherent in the merit system (commonly known as the "civil service" system) have recently induced the chief of staff of a highly progressive hospital in Brooklyn to suggest that this system be applied to the conduct of private as well as public hospitals. Efforts are being made to work out a standard rating system.

Lay trustees are probably more nearly impartial in the designation of medical appointees than medical men would be; laymen, at all events, are less likely to be influenced by personal or professional relations with the candidates, and are in a better position to make a calm and thorough canvass of the field in search of the best men available. Hospital trustees are not wholly unreasonable who decline to bestow the power of appointment on medical men without a check. They may wisely retain the appointing power in their own hands; but, recognizing that technical matters are best judged by experts, they should not act without the assistance of medical advisers.

I have yet to encounter a safer system than that which provides that, on the occurrence of a staff vacancy, a committee jointly representing the lay board and the medical board be convened to prepare a list of men eligible to fill the vacant post. Any candidate who successfully withstands the fire of criticism which is leveled at him in the course of a joint committee meeting of this character is pretty certain to possess at least the necessary minimum qualifications. In one institution the list of eligibles created by the joint committee is subsequently intrusted to the lay committee alone; this committee makes a selection, and recommends the nominee to the medical and lay boards in turn for confirmation. This system includes all possible safeguards. Although the actual nomination is made by a committee of laymen, the proposal of any candidate whose qualifications have not been approved by the medical members of the joint committee is impossible. A further safeguard is provided by intrusting the veto power to two larger bodies of medical men and laymen respectively.

But in spite of all precautions, an appointment may prove to be unsatisfactory for one reason or another. A surgeon who is personally competent may fail to become a congenial or an efficient member of the staff. On account of this possibility, it is wise to regard all appointments in the junior grades, at least, as trial appointments only, subject to cancellation at the expiration of a probationary period. The idea that a surgeon who has once been appointed to a hospital position thereby acquires a lifelong claim on the job is inadmissible.

The trustee's family physician is forever bobbing up as a hospital candidate, seeking surgical or other important appointments. Within the past three years two of the most important medical administrative positions in the country, one a hospital superintendency and the other a health commissionership, have been given to the family physicians of mayors. In both instances these appointments were given to men wholly inexperienced in the work assigned to them, and claiming no suitable qualifications. It is with a view to the prevention of mistakes of this sort that it is suggested that hospital appointing committees include members of the medical staff; by this means the error of any trustee who might venture to make a wholly inappropriate nomination would be readily disclosed.

In the selection of a surgeon, trustees may be unduly impressed by popularity. A surgeon rarely acquires a large clientele unless he is competent to operate, but the most popular surgeon is not always entitled to hospital preferment. A surgeon whose private practice is so large as to exhaust his time and energy cannot be expected to be punctual in attendance on the wards, or to be deliberate, careful, and thorough in examining ward patients. This is the type of surgeon who sees his patient for the first time in the operating room, and who is content to leave diagnosis and other preliminaries in the hands of the house staff. Such a surgeon may be entirely willing to gives his best service to the hospital, but he is not in a position to do so.

The function of the hospital is a dual one—first, to care for its patients, and, secondly, to contribute to the advancement of medicine. No hospital may rightly neglect either of these functions. A surgeon who is so preoccupied by private practice that he cannot interest himself in research work, cannot train his assistants, and cannot cooperate freely with the laboratory staff is one whom the hospital can afford to pass by.

The mistake is often made of appointing to a hospital position a surgeon who is already identified with several other institutions; this is analogous to the appointment of a man who is overoccupied with private practice. It is evident that when such an appointment is made somebody must suffer. If the new appointment is more attractive than the old, the appointee will give more attention to his new than to his old responsibilities, a result which raises the question of fair play. It is conceivable that one hospital may rank distinctly higher than another in the professional opportunities which it offers, and that the

appointment to such a hospital of a man already holding a position elsewhere would be a deserved promotion. The ranking hospital, under such circumstances, has the right to offer an appointment to the man of its choice; but if the appointment is accepted, the situation must be frankly faced by the appointee, who should not attempt to monopolize the field or to undertake impossibilities.

Hospitals depend on the good-will of the communities they serve. Local public opinion, therefore, is nearly always an important factor in determining the official acts of the hospital management. To offend local opinion is not good policy; and yet it may be necessary to do this in order to protect the hospital's higher interests. If, for example, an important position is open, and the man who is most conspicuously qualified to fill it happens to be a resident of another city, local pride will rebel against his appointment and will urge the nomination of some local practitioner. The hospital board which encounters such a situation is in a difficult position. If the nonresident candidate is appointed, the hospital will lose the good-will of some of its friends; but this loss is temporary, and in the long run will be offset by the added reputation which the better qualified candidate will eventually bring to the hospital. Geographic limitations, then, should not be permitted to govern too strictly. It is gratifying to observe that hospital boards are more and more asserting their right to look anywhere for men who are qualified to raise the hospital to the highest efficiency.

No discussion of the selection of the surgeon would be complete which failed to take account of an extremely common situation—namely, the candidacy of a surgeon who has long served the institution in its out-patient department against that of one who has given no such service. The lot of the dispensary surgeon is not a particularly happy one. With rare exceptions, dispensary service continues to be performed gratuitously, and, while the hospital is not justified in promoting from its out-patient department a man who is not fitted to do the work that will be demanded of him as visiting surgeon, fair play demands that the out-patient surgeon, with a record of ungrudging service to his credit, shall be preferred to an outsider whose qualifications are not distinctly superior.

In the hospital, as well as in the dispensary, the surgeon usually works without salary or fee. While the hospital surgeon sacrifices time and strength to the needs of ward patients, his sacrifices are offset by the opportunities that his position brings to him. To succeed in surgery without a hospital appointment is an uphill fight; as surgical work increases in complexity and demands increasingly the support of other diagnostic and therapeutic departments, it becomes more and more difficult for a surgeon to practice independently of a hospital. In the hospital the surgeon has consultants at command; he likewise commands the facilities of the laboratory and of the x-ray department, and the invaluable services of the resident medical and nursing staffs. The prevalent keen competition for unsalaried hospital positions indicates clearly enough that the acceptance of such a position is not an act of unadulterated self-sacrifice, and that indirect rewards are hoped for.

The hospital may experience difficulty in enforcing discipline on a surgeon who must get his living outside of the hospital. This situation must be faced frankly. Conceding that the strict enforcement of hospital regulations does occasionally work great hardship on the visiting surgeon, the primary consideration is to provide adequate care for the hospital's patients. If this cannot be obtained from the assigned visiting staff, a new unpaid staff must be substituted which can and will give the required service, or the system must be changed. Changes in system have already been tentatively made in a number of notable instances. The change which is most commonly urged is the substitution of a full staff of salaried visiting surgeons for an unsalaried staff; a modification of this system is the appointment of a full-time salaried chief of service to direct the work of the unpaid subordinate attending surgeons.

The appointment of full-time salaried visiting surgeons has been effected in certain cases not so much for the purpose of insuring adequate attention to hospital patients as to promote research and to develop teaching. Hospitals which have thus committed themselves to a policy of research and education have been interested not only in the highest development of their own staffs, but in the education of undergraduate students, an attitude which is worthy of commendation. Much emphasis is placed nowadays on the clinical training of the medical student, and it is obvious that such training cannot be given by a medical school which does not command the facilities of a suitable hospital. Hospitals that disinterestedly lend themselves to the purposes of medical education are pursuing a wise social policy, and are serving many patients besides those in their wards.

Salaries may be paid to visiting surgeons for less than full-time service. The trustees of the most important municipal hospital in New York city are committed to the payment of salaries to

the chiefs of their medical and surgical services, respectively, for a minimum of four hours of daily service. This policy has been advocated on the ground that the required service cannot be obtained on any other terms, a claim which it is difficult to understand in view of the fact that other New York hospitals possessing no greater attraction to surgeons of high standing have no difficulty in obtaining the men needed or in holding them to the observance of exacting rules. To assert, however, that it is possible for such hospitals to obtain service gratuitously is not to argue against the justice of paying salaries to the visiting staff; the ethics of the proposal is one thing—its necessity or expediency is quite another.

Reference has been made to two forms of compensation—namely, financial compensation and compensation in opportunity. There is a third form of compensation which has, perhaps, an indirect money value. I refer to the facilities which are placed at the disposal of the surgeon by hospitals which care for both free and private patients. If the surgeon's principal income is derived from the operations which he performs on well-to-do patients, it is of value to him to be able to offer to such patients the facilities of a well-equipped private hospital. Furthermore, if he is to give his services gratuitously to ward patients, it is advantageous to be able to do so with a minimum expenditure of time and effort. Both of these objects are realized when the hospital places at the disposal of the surgeon a well-equipped private ward in close proximity to, if not under the same roof with, the public wards in which he spends part of each working day.

Although, as a rule, the charge which a private patient pays to the hospital is sufficient to cover the cost of maintenance, some hospitals care for private patients at less than cost, thus indirectly contributing out of their general funds toward the support of a department from which the visiting surgeon derives benefit.

With rare exceptions, the professional fees paid by private hospital patients remain in the surgeon's hands, no part of such fees being claimed by the hospital for its share of the service rendered. On the other hand, the practice in respect to surgical fees for operations performed on ward patients varies widely. In many staff hospitals the admission of ward patients is restricted to persons in reduced circumstances, and the payment of fees is forbidden. In other hospitals so-called "free" wards are not absolutely free; in these hospitals ward patients may be received gratuitously, or may be permitted to pay part of the cost, or even the full cost, of their maintenance. It is not exceptional for hospitals to permit the collection of professional fees from ward patients who pay to the hospital part of the cost of maintenance.

The matter of compensation for surgery practiced on ward patients has been recently affected by the enactment of workmen's compensation laws, under which a class hitherto regarded as entitled to gratuitous hospital care is now received in hospitals under regulations which provide for the payment of hospital maintenance rates as well as for the payment of moderate surgical fees.

[To be concluded in next issue.]

American Association for Study and Prevention of Infant Mortality

BY GERTRUDE B. KNIPP

This association was organized in November, 1909, following the conference held at Yale University by the American Academy of Medicine. The association is under the impression that "no phase of conservation is so important to the state as the life and health of its infants." The objects of the association are: 1, to study the causes of infant mortality—to awaken an interest in the possibility of reducing the present unnecessary waste of infant life and to formulate plans for preventive work; 2, to act as a clearing house for the collection and dissemination of information regarding infant mortality and the work being done to prevent it.

Following the conference held at Yale University, headquarters were established in Baltimore on January 1, 1910. A brief outline of the work carried on by this office consists of: 1, correspondence from central office; 2, investigations and studies by standing and special committees; 3, annual meeting and the publication of annual transactions; 4, terms and management of traveling exhibit.

Organizations as well as individuals are eligible for membership. Affiliated membership is open to any society that is either interested or engaged in baby-saving work. At the present time there are over 150 organizations affiliated and over 950 individual members. The affiliated membership includes infant welfare societies, nurses' organizations, departments of health, women's clubs, departments of home economics, medical organizations, etc. Forty-two states, the District of Columbia, Hawaii, Panama, the Philippine Island, Canada, England, China, and New Zealand are represented in the enrollment.

It is estimated that not less than 250,000 babies under a year old die annually in the United States. Work that has been accomplished shows that at least half that number could be saved and started toward sturdy manhood and womanhood through the application of known principles of medicine and hygiene.

There are several classes of members, whose dues are as follows: life, $200; sustaining, $25 annually; contributing, $10 annually; active, $3 annually; affiliated societies, $5 annually. The various classes of members are entitled to all publications.

By a vote of four to one, citizens of Jones county, Miss., on September 6 authorized a $20,000 bond issue toward the erection of a state charity hospital at Laurel. The city of Laurel voted $30,000 for the same purpose several months ago, and it is expected that the hospital will be located at Laurel by the state Legislature at its next session.

METROPOLITAN LIFE INSURANCE COMPANY TUBERCULOSIS SANATORIUM

New and Elaborately Equipped Group at Mt. McGregor for Employees of the Company an Excellent Example in Architecture and Fittings—The Principles of Treatment of Patients—The Farm an Important Feature—Historic Surroundings Where Grant Died

By H. J. HOWK, M. D., Physician in Charge, and D. EVERETT WAID, Architect, New York

INCEPTION AND UNDERLYING PRINCIPLES

BY DR. HOWK.

THE idea that a corporation like the Metropolitan Life Insurance Company could build a sanatorium for the care of its tuberculous employees had its inception in the winter of 1908-09, when the exhibition of the International Tuberculosis Congress was brought from Washington and exhibited in New York. The company's clerks and agents were invited to visit the exhibit, after which addresses were delivered by physicians well known in the antituberculosis crusade. At this meeting it was proposed that the Metropolitan should build and maintain a sanatorium for its employees. The proposal met with the favor of the officers, and steps were taken to secure the consent of the state insurance department. The superintendent of insurance expressed a doubt as to the right of an insurance company to purchase real estate on which to build a sanatorium. The question was then submitted to the supreme court, which rendered a decision declaring that it was not only the right, but the duty, of the directors

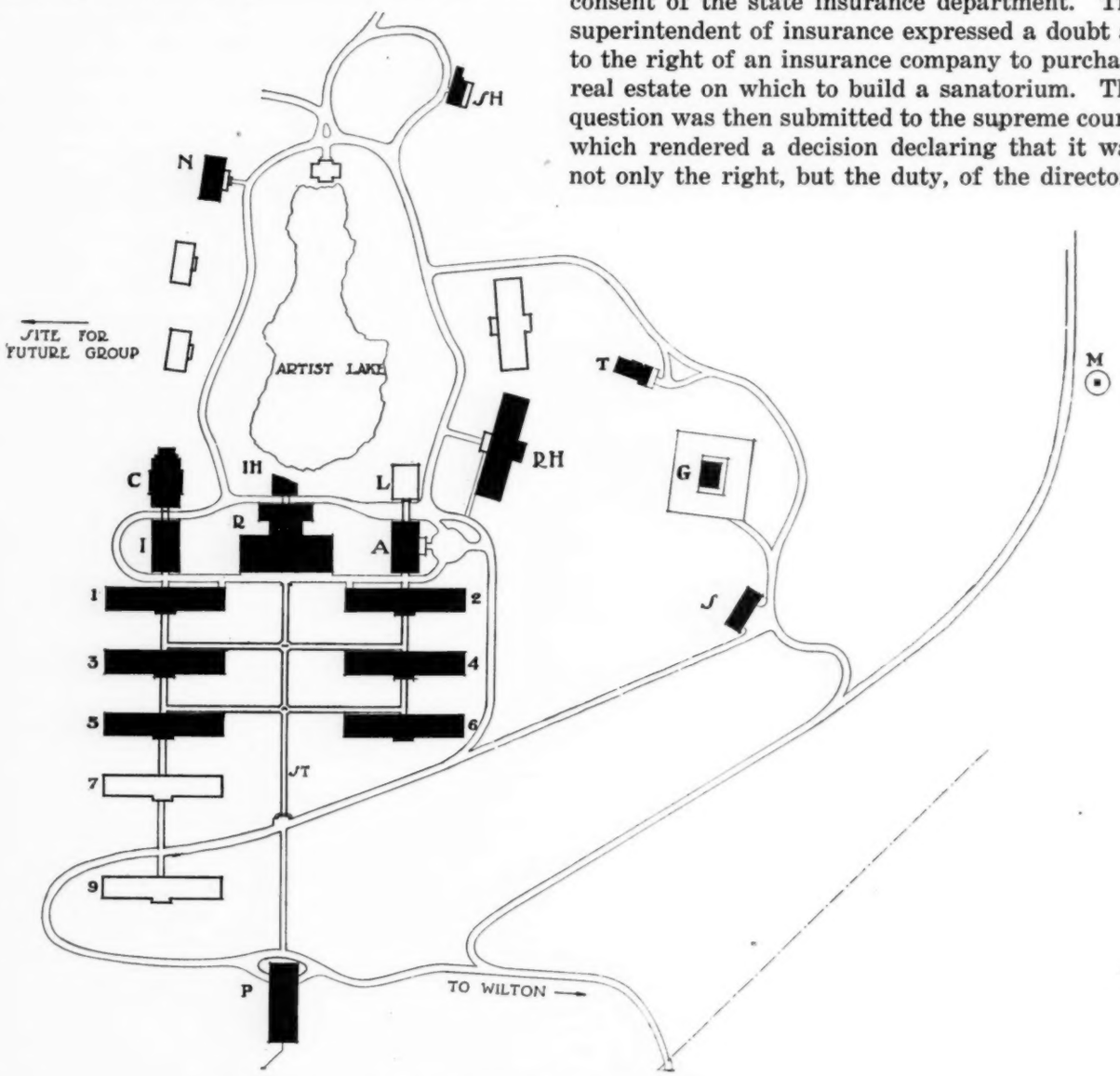


Fig. 1. Sanatorium of the Metropolitan Life Insurance Company. Block plan.

A. Administration building.
C. Chapel.
I. Infirmary.
IH. Ice house.
N. Nurses' cottage.
P. Power house.
PH. Pump house.
R. Refectory.
SH. Superintendent's house.
W. Water tower.
1 to 9. Ward buildings.
T. Temporary ward.
G. Grant cottage.
M. Grant memorial.
RH. Rest house.
L. Laboratory.
ST. Service tunnel.
S. Stable.

of a corporation, without consultation with the stockholders, to take reasonable care of its employees.

At the outset it was planned to care only for employees suffering from tuberculosis, and the site was selected and the buildings designed which would meet the conditions best suited to the treatment of this disease. A study of the available data was made to determine the number of beds necessary to care for cases arising among the 16,000 employees.

The general plan of treatment followed in the sanatorium consists of rest, fresh air, diet, and graduated exercise. A suitable number of single rooms is provided in the infirmary, so that every incoming patient can be kept in bed until the diagnosis is completed and constant bed treatment is found no longer necessary. With beginning convalescence the patient is transferred to the ground floor of ward building No. 1 or 2, which are provided with diet kitchens, and make possible the continued or partial bed treatment when necessary. As recovery progresses the patient is moved to other wards, the walks from which afford a moderate incline. By this method the strength of the patient gradually increases to meet the demand made on it. Numerous level walks in the vicinity of the buildings furnish exercise courses for beginning convalescents, or those whose pulmonary condition will not permit climbing grades. More extended roads lead through the woods to neighboring lakes, while the main road leading to the sanatorium ascends for the distance of a mile, making a grade varying from 6 to 10 percent, which is used only by those patients who have nearly completed their "cure" and must have their walking ability tested before resuming work. It may be said here that the Metropolitan Life Insurance sanatorium is one of the very few hospitals of its kind from which patients are returned directly to work. The majority of tuberculous individuals, on leaving a sanatorium, spend periods of idleness, varying from a few weeks to several months, before resuming work. It is important, therefore, that our patients should be "tested out" as carefully and thoroughly as possible before discharge. With the limited number of occupations represented in the company's employees, it is possible to duplicate the majority of them, and provide the patient with work analogous to that in which he was previously engaged and to which he returns. For example, typewriters, filing clerks, etc., are given indoor work of this character, while agents who spend a good portion of their time walking from house to house are given outdoor exercise of a similar character, the effort being to habituate the body and mind to work, and thus make as natural as possible the transition from idleness to employment. It is still too early to ascertain whether this preparatory treatment has a lasting or permanent value, and only careful observation of cases over long periods of time, and comparison of statistics with other groups

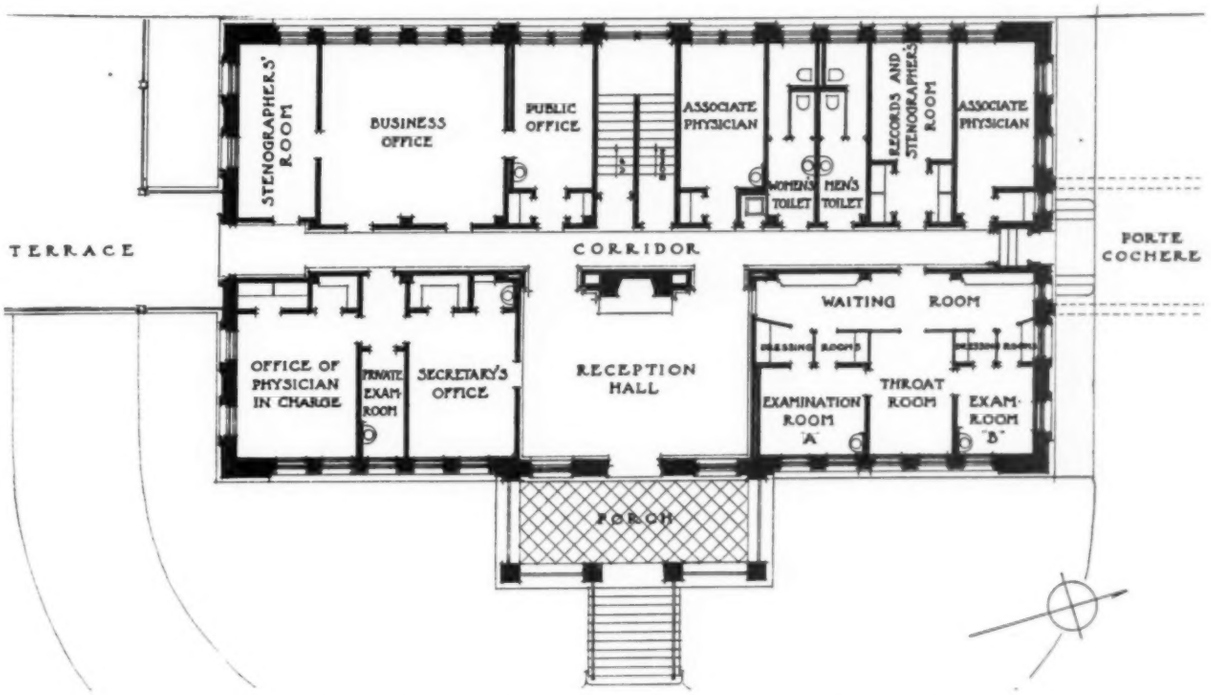


Fig. 2. Sanatorium of the Metropolitan Life Insurance Company. Administration building. First floor plan.

under differing conditions, can determine its worth. The experiment has been carried on sufficiently long, however, to demonstrate that the readjustment of the patient to regular working conditions is made with a minimum of mental and physical effort, loss of weight, and malaise—symptoms commonly experienced by tuberculous individuals on resumption of a regular occupation following sanatorium treatment.

Although, at the outset, plans were made to care for only tuberculous employees of the company, it was soon realized that employees with other diseases would be benefited by the kind of treatment that could be provided in a country sanatorium; that the rest, fresh air, supervised dieting and exercise, so necessary in the treatment of tuberculosis, would be of equal benefit in anemia, diabetes, nephritis, heart disease, gastric and intestinal diseases, nervous diseases, etc., and a few of these cases were brought to the sanatorium during its first year, with sufficiently good results to warrant the building of a rest house, with accommodations for 80 patients. This building, lately completed, will provide single rooms for such patients as require isolation and complete rest, and double rooms and two dormitories for those employees needing only "building up."

A laboratory for routine and special work is provided in the infirmary and another in the rest house, but it is hoped that a laboratory building adequate for such researches as may most advantageously be undertaken will be provided in the near future. In this building will also be housed the electrocardiograph, which will be connected to rooms in the infirmary, rest house, and examination rooms in the administration building.

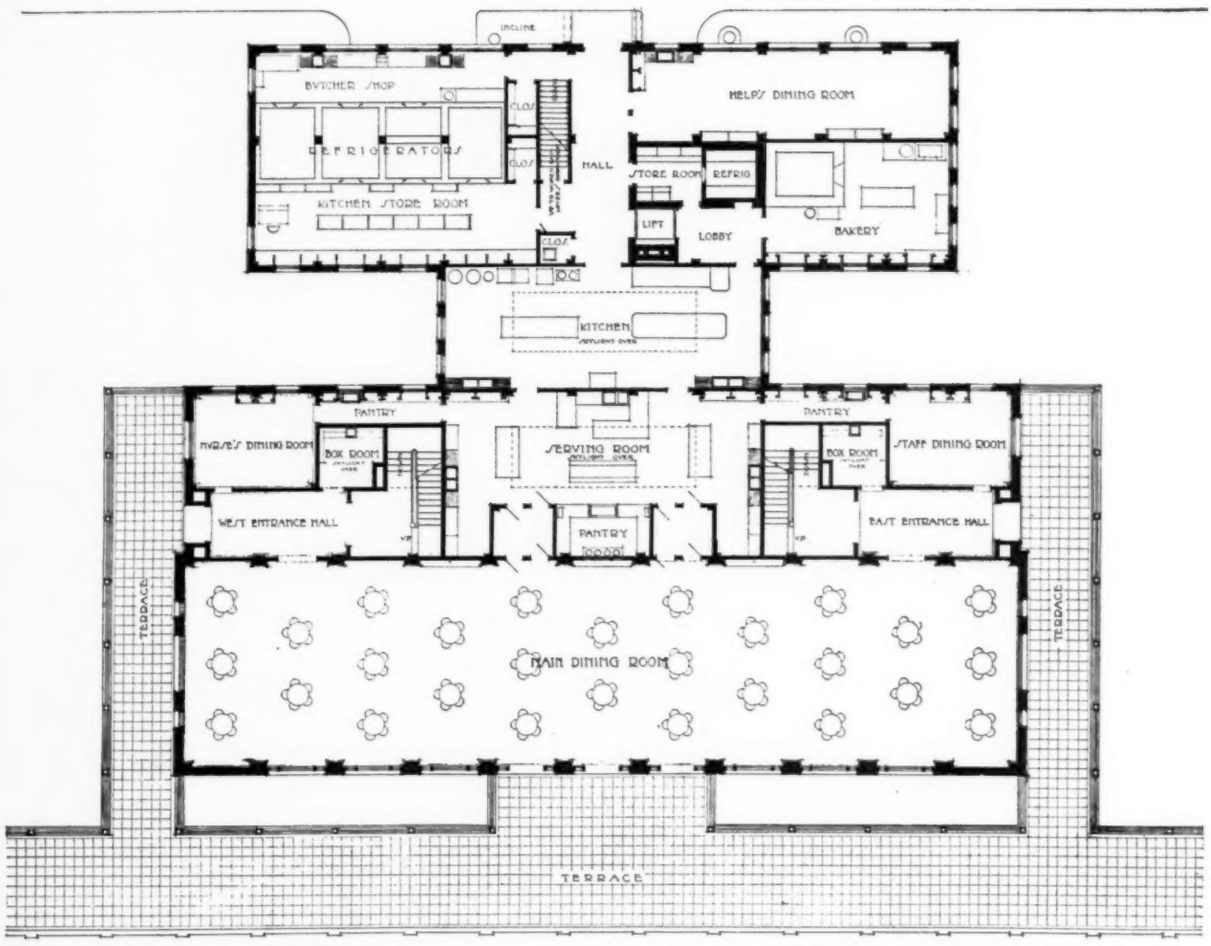


Fig. 3. Sanatorium of the Metropolitan Life Insurance Company. Refectory. Floor plan.

Fresh fruits, vegetables, and milk, so essential in the treatment of disease, are produced on the sanatorium farm at the foot of the mountain. Fifty-five Ayrshire cows comprise the herd, and the fat content averages 4 percent throughout the year. A herd of fifty Berkshire pigs supplies pork to the sanatorium, and these are fed almost exclusively on the table scraps, which are sterilized in a specially built garbage can (described in THE MODERN HOSPITAL of March, 1916).

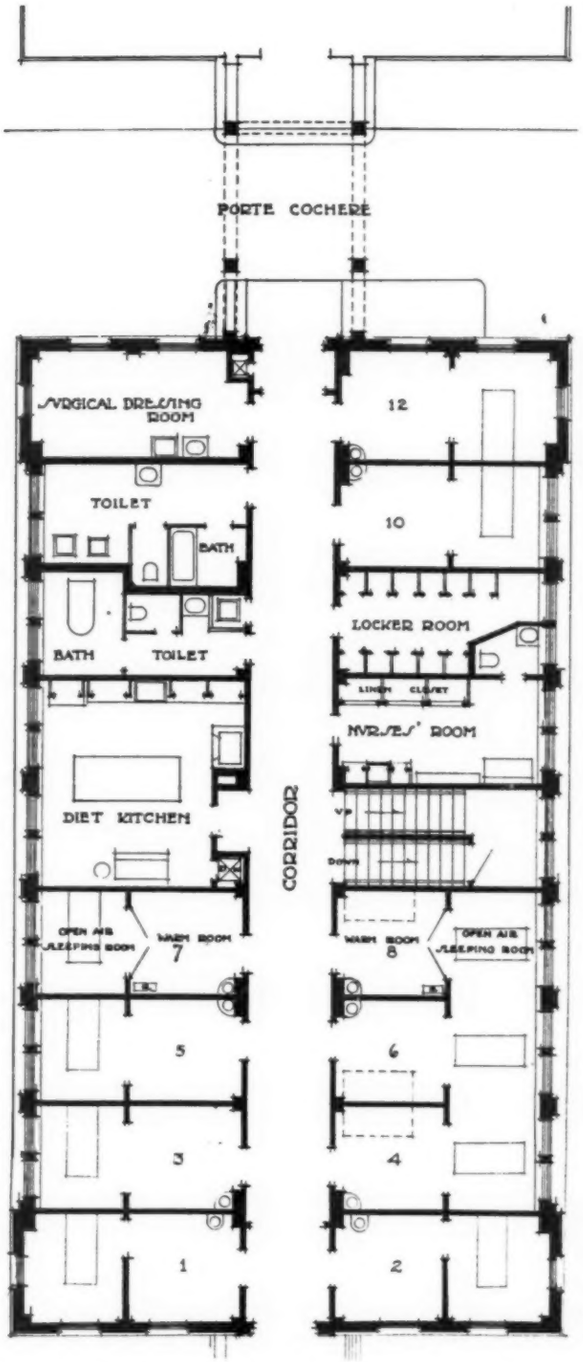


Fig. 4. Sanatorium of the Metropolitan Life Insurance Company. Infirmary. First floor plan.

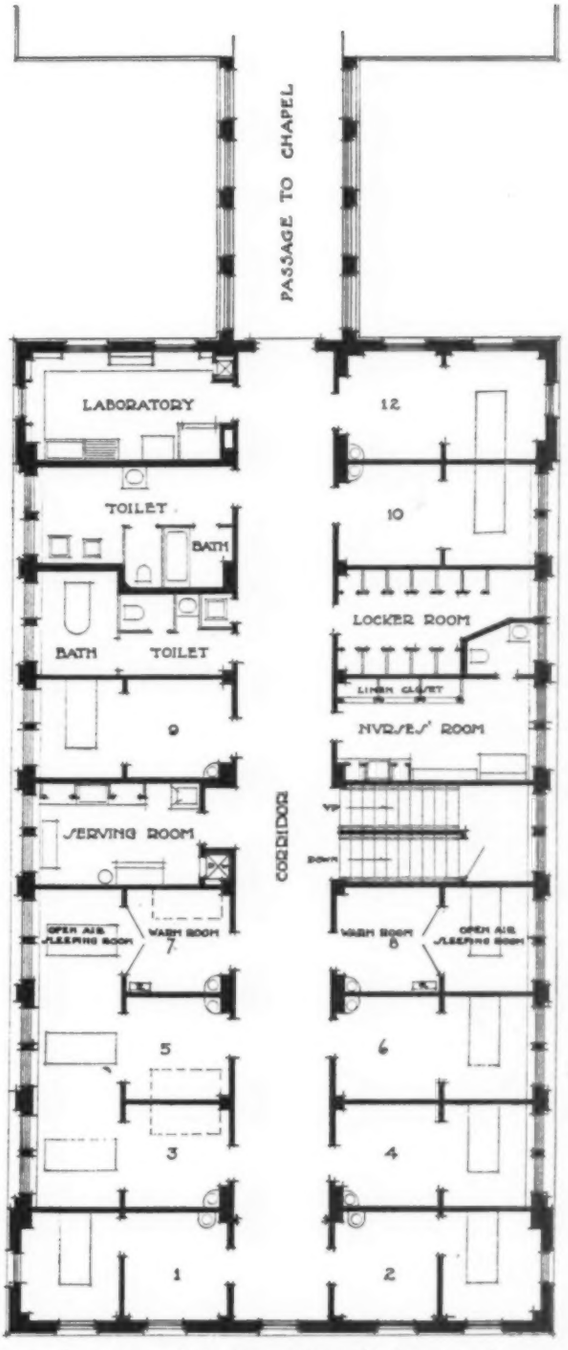


Fig. 5. Sanatorium of the Metropolitan Life Insurance Company. Infirmary. Second floor plan.

ARCHITECTURE AND EQUIPMENT

BY D. EVERETT WAID.

The institution is located at Mt. McGregor, New York, one and a half miles from the village of Wilton and nine miles north from Saratoga Springs. The property comprises 500 acres, not including the farm. Looking from the sanatorium site to the west may be seen the foothills of the Adirondacks; to the south, Saratoga Lake, and in the distance the Catskills; to the east the Schuylerville monument, which commemorates the battle of Saratoga; Bemis Heights, where one of the revolutionary battles was fought, and in the distance the Green Mountains. The level of Artist Lake, which is in the center of the group of buildings, is 1,046 feet above the sea. The mean maximum temperature in summer is 92 and the extreme minimum temperature in winter during the past three years occurred in January, 1914, 32 degrees below zero. The sanatorium was opened to receive patients in November, 1913, but some of the wards and the administration building were not then erected. The number of pa-

tients which will be accommodated in the whole group of buildings now being completed will be 322, and the number of patients at the sanatorium when this is written is 190.

The foundation walls are of rubble stone (gneiss), quarried on the site; the superimposed walls are of hollow tile, stuccoed; the floors and roofs are of reinforced concrete, the roofs being covered with red tile; the finished floors, in general, are of Portland cement concrete; the toilet room floors are vitrified white tile; the kitchen floors are green slate; the corridor floors are concrete, covered with linoleum; and the bed rooms in the rest house have magnecite composition flooring.

Fig. 6. View in ward building.

Fig. 7. Dining room of refectory; first group of patients.

Fig. 8. Kitchen of refectory.

Fig. 9. Kitchen of infirmary.

The sanatorium consists of a group of three head buildings—administration, refectory, and infirmary—several open wards, rest house, and power house, located on the southern slope of Mt. McGregor, exposed to the prevailing southerly breezes of the summer and protected by the mountains and forests from the northerly storms of winter. The graded walks make it possible for a wheeled chair or food cart to be run from any ward bed to the dining room or kitchen without passing a step.

The main driveway in front of the refectory is covered, and connects the five central buildings—the administration building, refectory, infirmary, and wards Nos. 1 and 2—and provides a level and dry outdoor walk in stormy weather and in fair weather an elevated terrace, from which is obtained a magnificent panoramic view of the Hudson Valley.

The first building of the group reached from the drive up the mountain is the administration building. It provides offices for the physician in charge, assistant physicians, business manager, and accounting and clerical assistants. Adjacent to the main reception room are examination rooms, with waiting and dressing rooms arranged to facilitate the examination of a large number of patients with little loss of time and space. Medicines are issued from the pharmacy in the ground story. In the ground story is located also a hydrotherapeutic department, with special cooling and heating facilities to insure desired

temperatures. Dressing rooms, steam-heated cabinet, etc., are planned to facilitate the use of this treatment as far as it may prove advisable. The upper portion of the administration building is devoted to individual bed rooms for the staff and for guests, and to a library and sitting room for their use.

The central and largest building of the group is the refectory, the ground floor or basement of which is intended for convalescent patients' work rooms, library, recreation rooms, storage, etc. Incidentally it may be noted that thus far practically no work has been done by patients, except basket making, which has proved to be popular. A government post office is provided in this story, and also a press room for the *Optimist*, a weekly paper published by the patients. The main front portion of the refectory is devoted to the dining room, 32 feet 10 inches wide, 132 feet long, with a vaulted ceiling 24 feet 6 inches high, commanding a view of the Hudson Valley and Saratoga Lake directly to the south. North of the main dining room are the nurses' and staff dining rooms. In the center is a large double serving room, approached from the main dining room through vestibuled doors. Back of the serving room, which contains mechanical dishwashing apparatus, etc., is the kitchen, with ranges and all cooking apparatus under a ventilated hood. Adjacent to the kitchen is the bakery. A butcher shop, grocery, cold storage rooms, and help's dining room are adjacent to the kitchen. The second story of the refectory (at the rear of the dining room) is set apart for female help bed rooms. Above this dormitory is an isolation ward, with an outside stairway, designed to accommodate a nurse and three or four patients. This was used once in three years for two scarlet fever cases. The rest of the time the isolation ward has proved to be attractive living quarters for interns.

Across the drive from the cold storage rooms is the ice house, with a capacity of 500 tons, which is built into the embankment on the southern edge of Artist Lake, which supplies the ice. The third head building is the infirmary, just west from the refectory. The basement, on a level with the drive at the south, contains waiting rooms, x-ray and dark room, patients' trunk room, autopsy room, etc. The first story, which is on a level with the drive at the north, contains, aside from the separate bed rooms, one for each patient, a diet kitchen, surgical dressing room, and bath rooms. The second story, which is similar to the first, has a serving room and a small laboratory. The stairways are designed for the convenient use of a stretcher in carrying a patient from first to second story. The distinctive feature of the infirmary is the method of opening the entire exterior end of each room to the outer air, protecting it with fixed louvre shutters, which permit free access of air and keeping out to some extent the sun, rain and snow. Each opening is provided also with double-hung glazed windows and with fly-screens. All of the shutters and sashes are kept down to the floor level when conditions permit. If necessary, the windows can be closed and the entire room of the patient heated. At the rear of each patient's bed glazed doors inclose a portion of the room, which in cold weather is heated and used at meal time and for bathing and dressing. Attention is called to the full opening of the win-

Fig. 10. Group of ward buildings; wards Nos. 3, 2, 4.

Fig. 11. Typical ward building; ward No. 3.

Fig. 12. Nurses' cottage.

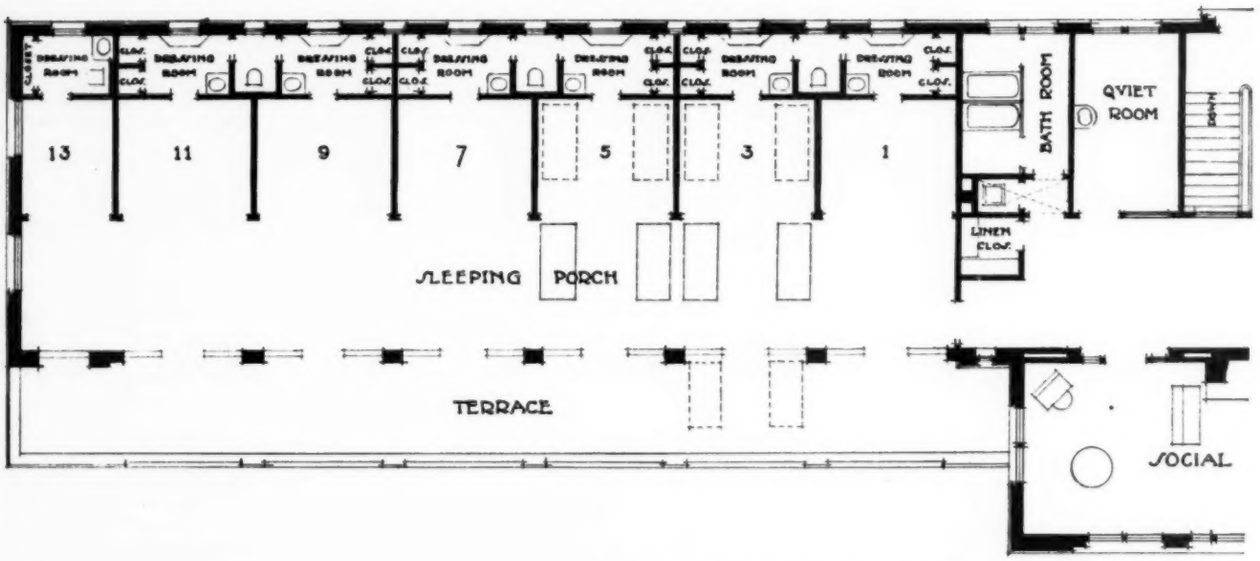


Fig. 13. Sanatorium of the Metropolitan Life Insurance

dows and the easily adjusted protection of the openly designed shutters of this building, which is used as a reception and observation ward as well as an infirmary for bed patients.

The chapel is connected by a glass inclosed passage with the infirmary, whence bed patients may be wheeled into the gallery of the chapel. A resident chaplain is provided with a sitting room, bed room, and bath in connection with the chapel.

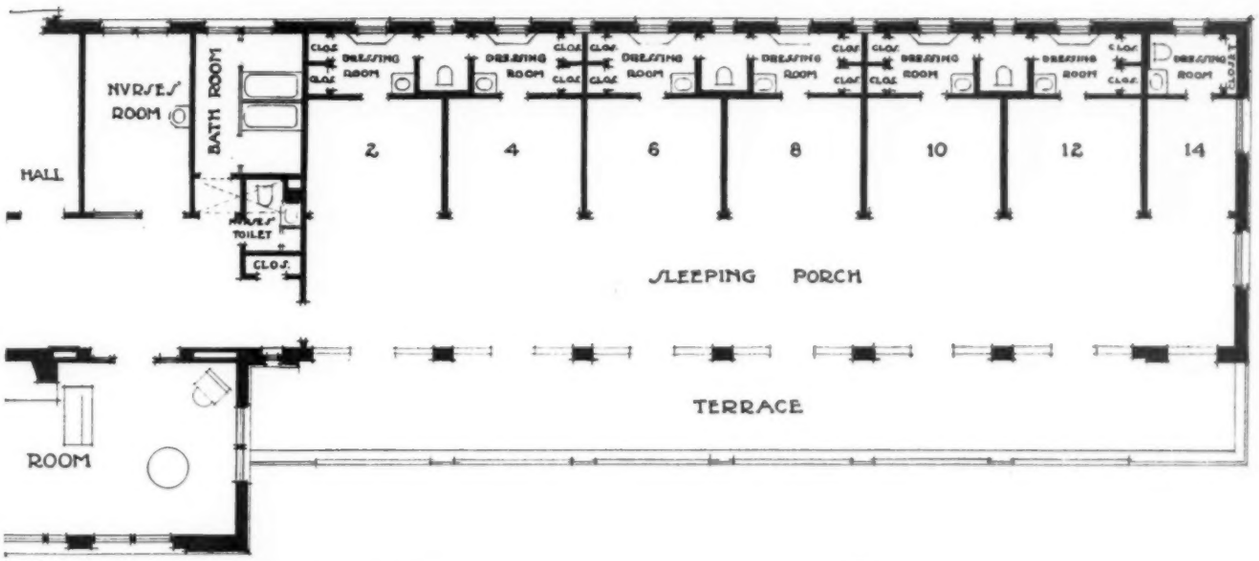
The ward buildings, the occupants of which are expected to take their meals in the main dining room, are a development of the so-called "shack" or "lean-to." Patients' reclining chairs and also beds are always out of doors, but under roof. The space, except in the outer veranda portion, is inclosed with flyscreens, and provided with a low balustrade designed to protect from driving rain and snow. The beds stand two in each alcove, and at the rear of each alcove is a dressing room for two patients, with a water closet between each two dressing rooms. Each patient has a wardrobe closet and half of a dresser. There is one lavatory in each dressing room, and each of the two patients has his own towel-bar and glass and toothbrush holder. A special feature of the lavatory is the rain supply, the water dropping in a spray directly to the outlet of the bowl (Fig. 18). Patients are expected to bathe in running water and not use stoppers in the bowls. Each bed alcove is flooded with sunshine from a skylight, which has a nonclosing ventilator, so that there will be a constant upward circulation of air above the beds. The alcoves are designed with a view of providing doors to close up the front, and some of the alcoves were experimentally provided with such doors, but their use, it is found, will not be necessary, even in the most severe weather, unless in an emergency.

In the central portion of each ward building are tub bath rooms, with showers delivering water at an angle and controlled by valves out of range of the spray, so that in bathing the head may be kept dry. A social room is also provided, and in the wide halls are specially designed overcoat and hat racks, with compartments for umbrellas and overshoes.

The power house contains the boilers and engine room, boiler feed pumps, emergency water supply pump, and electric transformers, with space for possible future electric generators. Coal is delivered in five-ton motor trucks into vaults with a capacity of 700 tons, and finds its way by gravity from the driveway to the front of the boilers. Ashes are raised on an electric hoist and delivered to wagons in the driveway. The story above the boiler room contains fully equipped laundry and sterilizing rooms. The soiled linen is collected in canvas bags, which, with their contents, are sterilized before being opened for sorting and sent to the wash room. The upper story is a dormitory for male help, and is provided with a sitting room, bath rooms, etc. Under the same roof with the power house is a garage and repair shop.

A closed passage, or tunnel, leads from the laundry floor up the hill, 750 feet, to the refectory. Employees may walk through this tunnel in stormy weather, and an electric railway carries laundry work and supplies to and fro. Waste material is delivered directly into an incinerator, and that part of the garbage which is fed to swine is passed through steam cookers and is then taken to the farm.

The tunnel contains pipe galleries carrying steam, water, drainage, electric cables, etc., and from the main tunnel branches from the various



Company. Typical ward buildings. First floor plan.

lines are carried through underground conduits to the several buildings. At the upper end of the tunnel in the refectory are large storage rooms for linen, linen repair rooms, mattress store rooms, with special racks, flour storage, storage for canned fruits, etc., with special shelving.

The nurses' cottage, northwest of Artist Lake, but within easy walking distance, is intended to have a homelike aspect, with a bed room for each nurse, or private sitting room if she chooses to use the common sleeping porch. On arising in the morning, each nurse may close her windows,

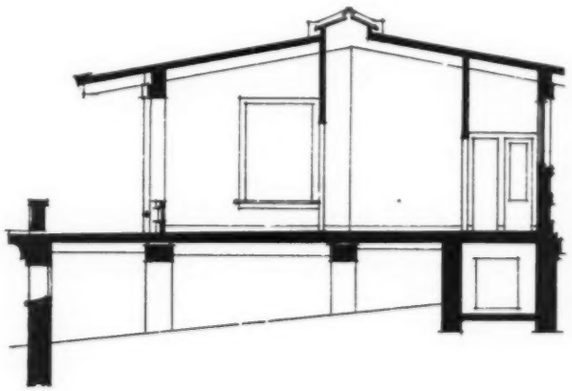


Fig. 14. Sanatorium of the Metropolitan Life Insurance Company. Typical ward. Section through sleeping porch.

remove the radiator jacket, and allow her room to warm while she steps into her heated dressing room. A comfortable living room in the first story is the center of social recreation for the staff. The residence for the superintendent or physician in charge is located northeast of Artist Lake.

The rest house is designed to care for those employees of the company who are suffering from diseases other than tuberculosis. This building, which has a capacity of 80 beds, will also provide facilities for treatment and study of employees who are run down, anemic, or who have minor ailments which may predispose them to more serious diseases. A considerable number of rooms in the building are for single beds, while other rooms are large enough to accommodate two beds each.

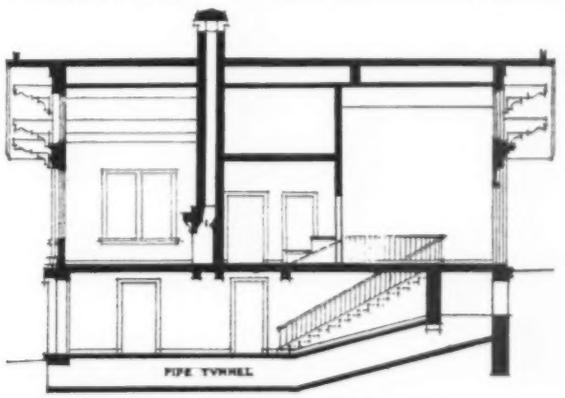


Fig. 15. Sanatorium of the Metropolitan Life Insurance Company. Typical ward. Section through social room.

In the third story are two wards of six beds each, with dressing and bath rooms adjacent. Large social rooms and open porches add to the comfort and attractiveness of the building, and in a central portion of each story a diet kitchen is provided for the preparation of food which it may be necessary to serve within the building.

North of the residence of the physician in charge is a reinforced concrete 50,000-gallon storage tank, supported on a stone tower. The water supply is taken from Lake Bonita, nearly a mile to the west, where it is treated with chlorine gas, and whence it is pumped by a gasoline pump to the water tower, aerated and filtered, and thence distributed by gravity to the various buildings. Artist Lake, which is an attractive landscape

feature in the midst of the group of buildings, is used for emergency water supply.

The sewage disposal plant is located on the lowest part of the property, well away from the buildings, and consists of settling tanks, sprinkling filter, sludge bed, and sand filter beds. The effluent is treated finally with chlorine before it escapes into the neighboring stream.

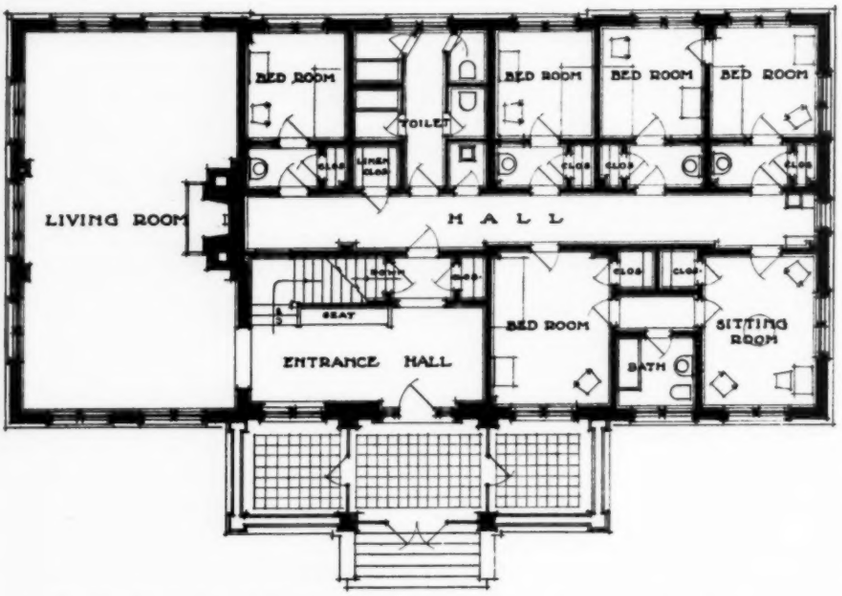


Fig. 16. Sanatorium of the Metropolitan Life Insurance Company. Nurses' cottage. First floor plan.

Current for light and power is obtained from the transformer station of the electric railroad at Wilton, one and a half miles away, and is stepped down from 4,400 volts to 220 volts, 3-phase, 40-cycle, at the farm buildings and sanatorium.

Hot water heating is used throughout the buildings, the hot water being pumped from the central plant through pipe tunnels and trenches. The boilers also generate high-pressure steam for sterilizing and for use in the laundry and kitchen, and for steam tables in various serving rooms. The chimney is built of solid concrete blocks, reinforced horizontally and vertically with steel bars. It is 5 feet inside diameter and extends 175 feet above the boiler room floor.

A small laboratory is located in the infirmary and another in the rest house. A large laboratory for research work is a hope of the future. A surgical dressing room and a completely equipped x-ray and dark room are located in the infirmary. In the administration building are a waiting room, examination room, throat and dental room, pharmacy, the offices of the physician in charge and the associate physician, business office, post office, library, and recreation rooms.

Some of the plumbing fixtures are of special design, notably the lavatory faucets (Fig. 18) and bath spray apparatus (Fig. 19). Credit should be given to the plumber, L. D. Hosford, and the manufacturers, the Meyer-Sniffen Company, who collaborated with the architect in the design and production of these devices.

An item of interest in the administration of the sanatorium is the fact that two automobiles are maintained for passenger service between Mt. McGregor and the railway station nine miles away; also a light autotruck for express and farm supplies service. During the heavy snows of winter the automobiles are laid up and horse-drawn sleighs are substituted.

The farm is located in the valley at Wilton, New York, two miles from the sanatorium, and comprises 343½ acres of tillable land, including a wooded stream. The present buildings consist of the main barn and head farmer's cottage. The main barn has space for cows and horses, besides bull and calf pens. The building contains hay room, office, dairy, tool room, wagon room, ice

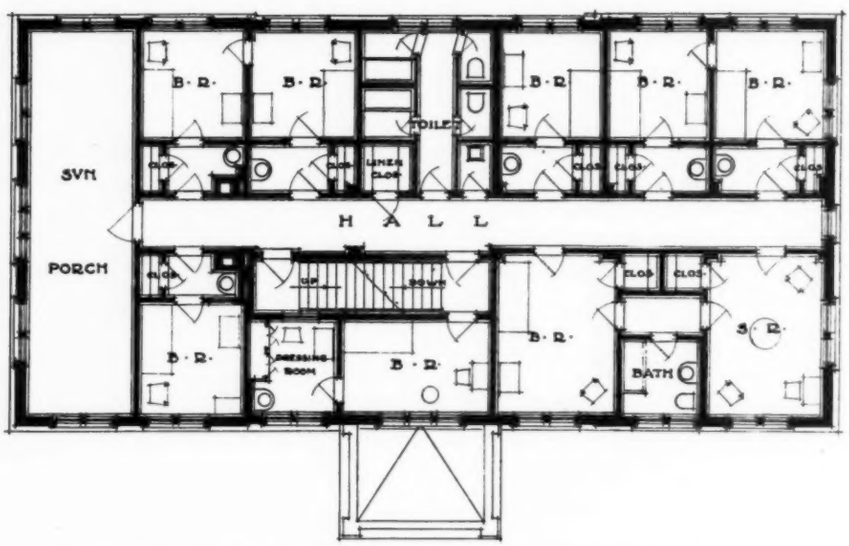


Fig. 17. Sanatorium of the Metropolitan Life Insurance Company. Nurses' cottage. Second floor plan.

house, dormitory for employees above dairy, and store rooms, vegetable cellar, coal vaults, heating and power plant, pressure tanks and pump, and

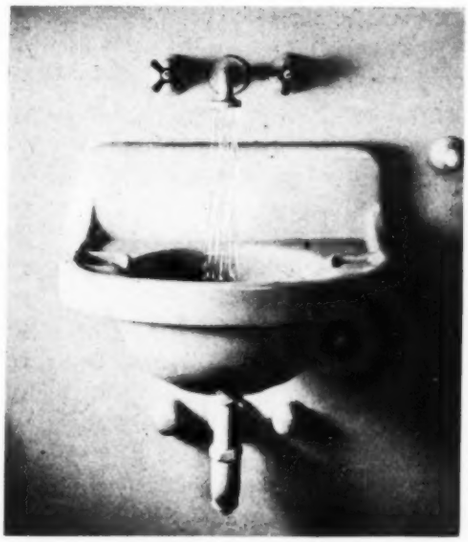


Fig. 18. Sanatorium of the Metropolitan Life Insurance Company. Lavatory specially designed by the architect and used throughout the sanatorium at Mt. McGregor. The water is supplied in a gentle rain shower, so that bathing will be done in running water. The bowl has no stopper, and no overflow with concealed spaces difficult to clean.

silos. When the extension of the main barn is completed, it will contain space for eighty-four cows, and a wing, symmetrical with the present

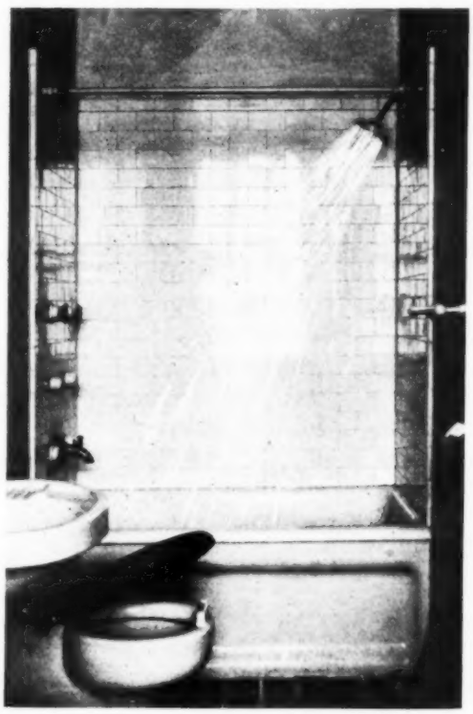


Fig. 19. Sanatorium of the Metropolitan Life Insurance Company. The special feature of the shower bath is the supply of the water at an angle, falling at the feet of the person standing near the control valves at the opposite end of the tub. The temperature of the water is easily regulated before it strikes the bather, and, as it is delivered at an angle, one's head may be kept dry when so desired. The water pipe leading to the shower head serves as a curtain rod.

dairy wing, will contain a wagon shed and garage. The water supply is from two driven wells 145 feet 6 inches deep, and is pumped into underground tanks and distributed by pressure. The farm furnishes the milk and vegetable supply for the sanatorium and also feed for the cattle.

There are now over fifty Ayrshire cows in the cow barn, which produce the milk and cream used at the sanatorium. Calves are being raised to increase the herd as needed. Six horses are housed in the horse barn to carry on the farm work and haul supplies to the sanatorium. A drove of fifty Berkshire pigs provides pork for use in the sanatorium. Poultry houses are a possible future addition to the farm equipment. Pigs are profitable, as they are fed mainly on sterilized garbage from the sanatorium.

It is of interest to visitors to know that the cottage where General Grant died, with 50 feet of grounds on each side, is owned by a memorial association, and stands in the midst of the sanatorium property. The Metropolitan Life Insurance Company has erected on the brink of the cliff where General Grant had his last view of the valley, July 20, 1885, three days before his death, a memorial consisting of a marble slab, suitably inscribed and enclosed with an iron guard.

ANOTHER HOSPITAL AFFECTED BY POLITICS

Governor of Louisiana Removes Efficient Superintendent of Charity Hospital

Recently Governor Pleasant, of the state of Louisiana, removed four of the seven members of the board of trustees of the New Orleans Charity Hospital and appointed four new members, who, a few days after their appointment, visited the hospital, spending about half an hour there. On August 19, two weeks after the appointment of the new members, the governor called the board together, and, acting as chairman, dismissed Dr. Charles D. Wilkins, superintendent for the past three years, and had Dr. S. W. Stafford, a New Orleans surgeon, appointed in his place. One of the new trustees, a Mr. C. A. Tessier, a real estate dealer, explained his vote by saying, "Well, my conscience is clear; I believe that Dr. Stafford will make a good superintendent; in fact, I believe that any manager of a hotel could run the Charity Hospital."

Dr. Stafford, who was on his vacation at the time, was to be represented in the hospital by Dr. B. F. Gallant, who has been Dr. Wilkins' assistant. It is said that the new management intends to do its best to maintain the system inaugurated by Dr. Wilkins, and it is also said that there were no complaints of any kind about Dr. Wilkins' management and that the change was made largely for political reasons.

At a meeting to be held at Liberty, Mo., in October, the Missouri Baptist General Association will consider a proposition to establish a tuberculosis sanatorium near Springfield. The association now has three hospitals under its direct supervision or recognition—namely, the St. Louis Baptist Hospital, the Missouri Baptist Sanitarium, and the Mayfield Memorial Hospital, all of St. Louis.

THE OWNER, THE ARCHITECT, AND THE ENGINEER

Relations That Should Exist Between the Parties Interested in a New Building—Some "Secrets of the Trades" That Should Be Known to Hospital Trustees and Administrators

By OTTO E. GOLDSCHMIDT, Consulting Engineer, New York

IN former years, when our wants were small, it was a simple matter to build a house. A man thus disposed would look about in his particular community and engage a reliable carpenter, to whom he would express verbally his simple plan of the house he wished to construct, and the carpenter would develop this mental plan a little further in his own mind, or perhaps even draw a little sketch of what he thought was wanted, and proceed to construct his building. In those days the architect was unknown.

As time went on and the demands and the wealth of the community increased, the man who wished to build a larger building to meet his demands found that it was to his advantage to employ a man who was specially trained and familiar, not only with carpentry, but also with mason work, plastering, hardware, etc., and who had some knowledge of plans and of costs. In those days the contractor was both builder and architect.

Under this procedure the owner soon found that the builder or contractor did not always fulfill his promises—that work did not always stand up as it should, it would show defects and omissions, extra charges came up which should have been foreseen and avoided, and which were excessive and difficult to check; all of which not only brought about endless disputes and unpleasant relations, but, worst of all, unsatisfactory results in the building which must serve the purpose for which it was built for many years. All of these troubles were caused by bad planning, a lack of proper study, improper supervision, etc. Furthermore, under this system the artistic side, to say nothing of the most economical construction, was entirely overlooked, and the results spoke for themselves. Actual competition under this system was out of the question.

On the next development the owner finds that it is to his advantage to engage a man, called the architect, to develop his mental picture of the building under consideration, and amplify it and present it in the form of carefully studied plans, in which changes and alterations can be made without cost, and all details can be carefully developed and studied before the work is executed. These plans, together with the specifications, can then be given out to various builders for estimates and actual competition can be obtained, as all builders are estimating on the same construction. There is no opportunity for excessive profits to the builder, and, with the regular and honest supervision on the part of the architect or his superintendent, the work is executed in a dependable and businesslike manner as provided by the plans and specifications. The owner is relieved of the responsibility of an immense amount of details, and gets the results which he wished to obtain at a lower cost than could be produced in the old-fashioned manner. The contractor has made a reasonable profit and is content, and is pleased to have satisfied both owner and architect.

With the tremendous progress of the age, our buildings have grown from the modest homes, institutions, or business buildings, one or two stories in height and covering only small ground areas, to the gigantic office and hotel buildings from twenty to fifty stories high, to hospitals and similar public institutions housing thousands, and to industrial plants employing vast numbers of men and women. The development and construction of these vast enterprises is entirely due to the tremendous progress of the engineering sciences.

The demand for the tall building was met by the structural engineer by an entire revolution in the art of building construction, together with development of the present elevator. But, in all of our modern buildings of whatsoever nature, the engineer becomes more prominent every day, for it is through the development of our modern systems of heating and ventilating, of electric lighting and power distribution, and the systems of water supply, plumbing, and drainage, that the comforts demanded above all things are supplied. Without these comforts our modern buildings would be impossible.

Our modern buildings, therefore, are far different from the simple cottage or home which required only a single trade—the carpenter—to construct, but instead require the employment of a vast number of different trades and, in addition, the sciences of architecture, of structural, mechanical, electrical, and sanitary engineering.

Naturally the vast expansion of the building requirements have greatly increased the demands on the architect, and, in place of a single man now being able to handle the problems which arise during the planning and construction of the building, the architect must have an experienced and highly

trained organization, each member of which has specialized in the various lines, such as architectural design, building construction, foundation and structural engineering, heating and ventilating, electrical engineering and sanitary engineering.

The contractor also expands, and now becomes the general contractor, with many subcontractors under him, who handle the work of the different trades, including those of an engineering character.

In the business arrangement for the construction of one of these large building projects, the relations of the owner, the architect, and the contractor remain as before, but a new factor enters here in the form of the engineer, or engineers, to assist the architect in these specialized branches. That such engineering services are essential is readily admitted by anyone who has had any experience in the building lines, but how they should be best obtained and arranged for is a question which has already gone through a considerable transition, and unfortunately has as yet not entirely become a fixed practice. Many men trained both scientifically and practically in their particular engineering branches have entered this field and devote themselves exclusively to the consulting work.

Just as in those days before the architect had come into his own, when an owner would ask a contractor about the advisability of employing an architect, he would receive the information that an architect was a useless ornamentation and of no practical value, and, further, would only cost him (the owner) money; that he, the contractor, would take care of all the plans and such work as the architect usually provided, at no cost to the owner. We all know what was the lamentable result of such arrangements.

Today we have in many instances practically the same thing, except that the architect now steps in between the owner and the contractor. The proceeding is something like this: The owner makes a contract with the architect to furnish all plans and specifications, and to supervise the building under consideration. This includes all engineering services of whatsoever work may be involved, and is based on the usual architectural fee for compensation. The architect starts his working plans, and, as formerly was done by the owner, so now the architect calls on one *contractor* in each of the structural, heating and ventilating, electrical, and sanitary lines to assist him to prepare *his* plans and specifications. These contractors, eager for the advantage for obtaining contracts in their lines given them by such an opportunity, usually prepare these plans and specifications without cost to the architect in dollars and cents. In most cases, however, the plans and specifications prepared under this arrangement are not only hastily prepared without proper study, but, far more important, they are prepared so that, while to the uninitiated, which frequently includes the architect, they appear perfectly fair and open, actually they are arranged so as to give the contractor who prepared them a decided advantage over his competitors, who naturally are forced to figure on these specifications and dare not criticise them to the owner or architect for fear of injuring his standing. In most cases the contractor who prepared the plans and specifications obtains the contract for this work—sometimes because his estimate is below those of his competitors, sometimes because the architect will offer the work to him at the figure of the lowest competitor, and sometimes because the architect will even induce the owner to award the work to him at a price above the lowest estimate received on account of special recommendation by the architect. In almost every case he is sure to get the contract, and, when it has been awarded to him, let us see what becomes of the position of the architect.

1. If the contractor had to cut his price, and naturally he had to figure the cost of preparing the plans and specifications as a part of the cost of the job, the architect still feels under obligations to him for rendering him this service, and the contractor will readily take advantage of this situation if he finds any evidence of it.

2. The architect, not being able himself to prepare the specifications and plans, while able to interpret them in a general way, cannot be expected to interpret the technical details and requirements, and must therefore depend on the contractor for such interpretation. Such interpretation would naturally be biased, and, in short, the contractor is in a position to interpret his own specifications. Omissions, reductions in weight, and the cheapening of the quality of material can readily be accomplished as long as the installation in itself is one that will operate or stand up. Of these changes the architect will have no knowledge.

3. If changes or additions to the original work come about, the architect has no one in an unbiased position on whom he can depend to check the estimated charges for such changes or additions.

4. Where a mechanical plant of some considerable size is required, including boilers, stokers, engines, electric generators, hot water heaters, refrigerating machinery, and the many electrical devices, as is the case in our modern hospitals,

hotels, and large office buildings, the architect, who can be expected to have only a general knowledge of such equipment, would be completely lost unless he had someone with whom to consult who is thoroughly familiar with this form of apparatus, without having a direct monetary interest in the recommendations he makes therefor. The owner can always buy such apparatus direct from the manufacturer at the same price as it would be sold to the contractor. If purchased, therefore, through the contractor, he must expect to pay a profit of from 5 to 15 percent to the contractor for handling this equipment, though the owner gains nothing thereby, and all that is demanded of the contractor is that he transfer this part of his contract to the particular manufacturer. He may, however, go even further and "shop" this equipment, and purchase it of a make or type which is inferior in quality and less in cost, but to the architect would seem the same or equal to that specified and originally figured in the estimates.

On this basis, in every case, though he may not realize it, it is the owner who pays the bill, and, while he thinks he is paying only his 5 or 6 percent for architectural and engineering fees, he is really paying a considerable additional sum for engineering services without getting the results to which he is entitled for the money so spent. The architect is not only saving for his own pocket the fee which would have been demanded by a reputable consulting engineer, but clearly has transferred such charges in a manner not discernible to the owner who pays the bills.

A concrete example of this method of operating was experienced by the writer a short time ago, which will serve to demonstrate the methods in use. This architect, having experienced some of the depression in the architectural business of recent times, concluded that on a certain job of moderate size he would dispense with the services of a consulting engineer and therefore made the usual arrangement with a firm of contracting engineers to prepare the plans and specifications for a certain part of the work, instructing them generally as to the character of the work wanted. The architect had had many years of business relations with this firm of contractors and had given them previous to this time a very considerable amount of work, and he had therefore the fullest confidence in them. The contractors were one of the largest and most prominent in their particular line, and had executed some of the largest contracts in this country. The plans and specifications were duly issued for competitive figures. One of the contractors who received the specifications had shortly before this time executed a similar piece of work, which had greatly pleased the architect, and had brought forth special commendation, and had been informed by him that a similar job was wanted. Much to the amazement of this contractor, he found the specifications issued entirely contrary to this statement. He therefore took it on himself, based on the architect's remark, to send in an alternate estimate based on the character of the work as previously executed on the particular job referred to by the architect. When the bids were received they all ran between $7,500 and $8,000, except the alternate, which amounted to $5,500. Fortunately for the architect, the owner did not get to see these figures. The contractor who had prepared the specifications was called in and at once instructed to modify his specifications, which he agreed to do, and they were again sent out for revised estimates. The figures returned were only slightly below those first submitted. The architect, thereupon realizing the position in which he was placing himself before the owner, called in the writer to go over the plans and specifications as prepared and to revise them according to good practice. It was found that the specifications had been what is commonly called "loaded" —that materials were specified that were ridiculous for the class of service, but very high in price, and would never have been installed by the contractor who prepared the specifications, for substitutions would have been absolutely necessary. It was found that certain specialties were called for, but that the data supplied was so meager that the one manufacturer specified was the only one in possession of the necessary conditions on which to quote, and his price, of course, was very high, to say the least. Other material was so specified as to absolutely eliminate the possibility of competitive prices, and the manufacturers specified were not slow to see their opportunity. The writer modified the specifications and plans according to good practice, and actually added to the equipment so far as results obtained by the owner, and the job was let for a little over $5,000—a difference of $2,500 to $3,000 for engineering services, to be paid for by the owner, without his knowledge of course, but still paid for by him, when it should not have cost him one-tenth of that amount in the regular way, and, as the architect had agreed to furnish these services, it should not have cost him anything, which was finally the case.

The writer does not claim that all work handled in this manner as between architect and contractor is proportionately as expensive to the owner, but does claim that it is fundamentally a bad business arrangement which invites such practice, and

cannot be expected to give satisfactory results to any of those concerned.

The architect cannot always be held responsible for resorting to this method, as the many changes in construction of buildings in our modern times have placed more and more responsibilities on his shoulders, and made greater demands of him daily without any material compensating effect in increased fees. In many instances he is, therefore, forced by the owner to resort to these means.

Many of the most prominent and reputable architects have recognized the fallacy of this method, and regularly employ consulting engineers for the various lines. Only a few of the largest firms are able to maintain a competent staff of engineers regularly on their force. Unfortunately some architects claim to have such a staff only to deceive the owner, and actually are dependent on the contractor for their information, or their staff in these lines is so lamentably weak that little can be expected of them.

It seems very evident that the average architect cannot afford to maintain a staff of competent engineers to handle the work of this character which comes to his office for the reason that this class of work should be done only by men who have specialized in their particular lines, and have had such technical training and practical experience that they command salaries which the average architect cannot afford to pay.

It would seem, therefore, that the consulting engineer independently established, just as the architect did many years ago, must become a part of all building operations of any size, and this transition is now under way. It would seem, however, that no owner who is arranging a contract for a building operation of any size with an architect should authorize such an arrangement or sign such a contract without having definite knowledge of how and by whom the engineering features of his project are to be handled.

Generally, it is preferable that the consulting engineers work under the direction of the architect, so as to have no division in the responsibility of the head and absolute unity of action, but frequently the owner reserves the right to select such consultants or pass on their acceptability.

As to the fees to be paid for such services, it is generally considered, and properly so, that where a building operation involves a considerable amount of engineering, the owner pay in addition to the now generally established architectural fee an additional fee to cover this engineering expense. Where architects are forced to a certain amount of competition, this is frequently lost sight of, and then the various means already described are resorted to, or incompetent and inexperienced engineers are employed, with the usual lamentable results for which the owner has to pay in the form of extras, changes, or in coal, electric current, and water bills for many years to come.

It is, therefore, equally important to know that your engineering work is in competent hands as it is to know that your architect is competent, and the same qualities of ability, honesty, and integrity must be sought for in the engineer that have been sought for in the architect. Without these, no confidence can be established, and without confidence no man can do his best work for his client.

Liability for Injury to a Patient

The California Supreme Court has affirmed a judgment against the McNutt Hospital, of San Francisco, for $750 in favor of a patient and her husband on account of her being burned on the legs by a hot water bottle while she was unconscious from the effects of an anesthetic administered to her before a surgical operation was performed upon her at the hospital. Finding that the evidence warranted a conclusion that the burns were sustained while the patient was under the exclusive charge of the hospital nurses, the Supreme Court said:

"Under its contract with her, the defendant corporation owed her a duty of protection which was violated by the use of an instrumentality which produced the painful results which were made manifest when she came out from the influence of the anesthetic. Proof of the accident carried with it the presumption of negligence. * * * And this is the rule, whether the liability be ascribed to the carelessness of experienced nurses or to the defendant's negligence in selecting nurses who were not competent. That is the true rule as announced in Adams vs. University Hospital, 122 Mo. App. 675, 99 S. W. 453, a case very like this one."

The Decision in Regard to Corn Syrup

The Illinois State Food Standard Commission, at a hearing held June 21 to 23, declared that corn syrup is a wholesome and nutritious food, equal in some instances to cane or beet sugar. There has always been prejudice against corn syrup, and this decision, made after the hearing of testimony of scientists and people with authority, may help to overcome this feeling. The manufacturer, of course, will be most pleased by this ruling, but if a wholesome, but less expensive, material can be made to take the place of a more expensive one, the consumer should also be glad.

This means the use of corn syrup is desirable in some instances, but not all. Our fear is that advantage may be taken of the facts granted, and if it becomes no longer necessary to state on the label that corn syrup is used for sweetening purposes, we may have to pay the higher price for the cheaper product.

From the beginning of the war up to July 1, 1916, the American Red Cross donated supplies to the warring countries to the value of $1,312,754.23. In these the allied powers shared to the extent of $1,002,021.87, nearly half being purchased with designated funds, and the central powers to the extent of $310,732.36, about two-thirds being designated. In addition, nearly $18,000 worth of supplies were sent to other countries during the period mentioned. These include Armenia, Haiti, Mesopotamia, Mexico, Poland, and Syria.

THE NEW BETHANY HOSPITAL, KANSAS CITY, KANSAS

A Block Type Institution Designed For Future Extension, For Economical Administration, and For Convenient Care of Patients

By J. McLEAN MOULDER, M. D., Superintendent

THE site of the institution consists of a five-acre tract of land, located at Twelfth street and Reynolds avenue, on the highest elevation in Kansas City, Kan. The building fronts south, facing Bethany City Park, containing eleven acres; thus the hospital building is surrounded by an area of sixteen acres, undulating from the high point of the hospital to the level of Central avenue. The natural grade of the ground is admirably adapted to the basement entrance on the east, and also affords easy access to the emergency or ambulance entrance between the main building and the annex, and is thus protected from the north winds and sheltered by the overhead connecting corridor.

The present building is "T" shape and is 156 feet long, the extension in the rear being 80 feet and containing the fuel, boiler, and machinery rooms, laundry, and nurses' quarters. It is six stories in height and of fireproof construction throughout. The walls are of brick, dampproofed and faced with brick and terra cotta. The main entrance on the south is sufficiently accented, and the main lobby and reception room are lined with marble and floored in mosaic tile.

The first floor of the main building contains the administrative offices, x-ray and laboratory departments, chapel, library, and sleeping quarters for interns.

The second floor comprises the surgical and medical wards for men and women, the separate wards having toilet conveniences. There are also fourteen private rooms, one suite with reception room and bath, two large sun parlors, the diet kitchen, three general toilets, and well-considered service rooms, closets, etc. All service rooms are supplied with hot air for warming utensils, independent of the general ventilating system.

Fig. 1.

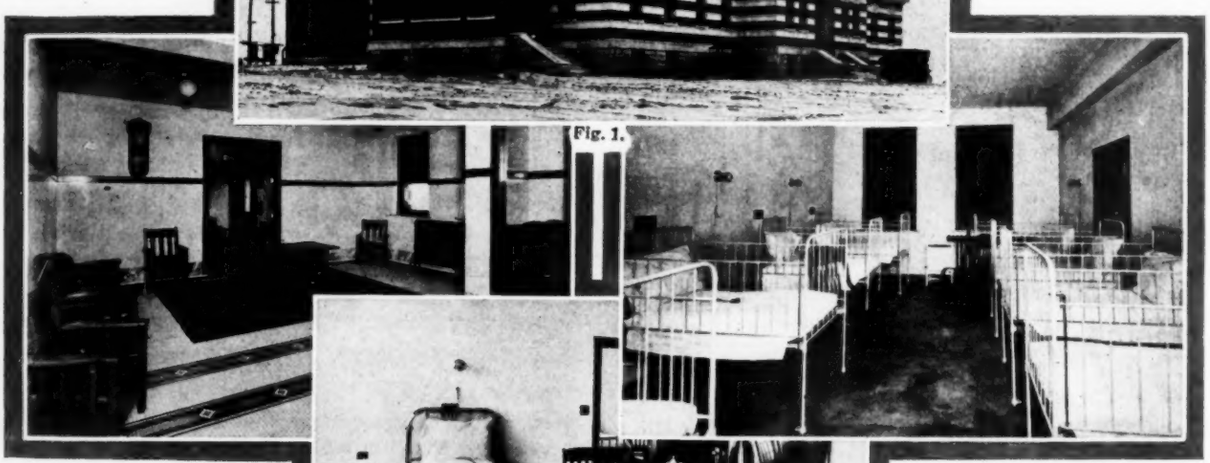


Fig. 2. Fig. 3.

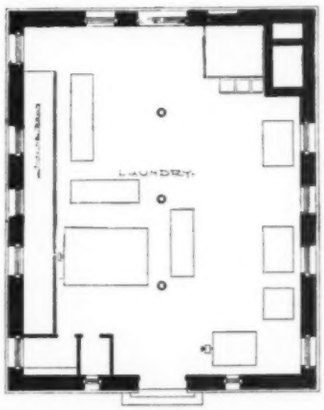
Fig. 4.

Bethany Hospital. Fig. 1—General view. Fig. 2—A reception hall. Fig. 3—A typical ward, showing trim, windows, flooring, lighting, and furniture. Fig. 4—A private room and its equipment.

The third floor consists of one suite, with reception room and bath; three private rooms, each with bath; one four-bed room, with bath; five three-bed rooms, ten private rooms, diet kitchen, three general toilets, and all necessary accessories.

The fourth floor is a duplicate of the third. The fifth floor provides for the surgical and obstetrical departments.

The surgical department consists of five operating rooms (the laboratory and recovery rooms having been converted to that use), one sterilizing and one anesthetizing room, nurses' work room and dressing room, also doctors' scrub-up and dressing rooms, which have metal lockers and showers and toilets.



The operating rooms have mosaic tile floors and are lined with vitrolite 6 feet high, the walls and ceilings being tinted and enameled.

As the roof is a roof garden, the vent flues are carried 15 feet above the roof line to insure fresh air at the breathing line. All skylights, ventilators, down spouts, flashing and counter flashing are made of heavy copper.

At the ground floor or basement grade entrance all supplies are received, weighed, checked, and delivered. All store rooms for vegetables and groceries are located convenient to the main kitchen, with due regard for sunlight and ventilation. The main kitchen and diet kitchen are ample and complete in equipment and arrangement, and are ventilated by a separate exhaust system. The ground floor contains also the doctors' and nurses' dining rooms, sewing room, drug supply room, main linen room, and rooms for storage, hydrotherapy, etc. The main kitchen is directly connected with each diet kitchen, and the roof by means of automatic push button dumbwaiters of the call and send type.

The basement of the annex or rear portion of the building contains the vacuum cleaning machinery, water filters, electric switch board, steam boilers, and fuel rooms, and the subbasement of the main building affords ample room for the refrigerating machinery, plenum chambers, fan rooms, ventilating ducts, and apparatus for propelling low-temperature air to all rooms utilized for fever patients. The facilities of this hospital are exceptional in that the ventilating arrangement admits of using any bed room desired as a fever room.

The refrigerating plant is ample to supply ice for packs, ice cream freezers, etc. All water used in the building is double filtered, and all drinking water runs in circuit and is mechanically cooled. The laundry is equipped with metal washing machines having direct connected motors, insulated to eliminate vibrations occasioned by overhead or shaft-driven machinery. The freight and passenger elevators are of the automatic push-button type, with fuel control and the most modern safety and locking devices. The elevator cars and inclosures were especially designed for this building, omitting all grill and panel work, with plain metal doors filled with polished plate wire-glass.

Fig. 5. Bethany Hospital. First floor plan.

The ventilating system is doubtless more perfect, complete, and versatile, yet simple and efficient, than that in any other modern hospital of which we know. With great care and calculation, velocity and resistance have been considered with regard to the size of the flues, which are built of glazed terra-cotta tile, and there is an assured and specific result in every revolution of the blowers. The registers are of the Louvre type, the grill being hinged to open for cleaning. All plumbing pipes are genuine wrought-iron, and are run and concealed in a way that admits of removing all the fixtures on any one floor without in any manner interfering with the operation of the fixtures on any other.

The architects have successfully worked out a great many new features that are strictly applicable to hospital construction in this building, which must be seen and examined to be fully appreciated. The signal system, for instance, which is of the silent kind, has a very small bell on the nurses' desk for night use; this bell strikes once only when the signal flashes, and this same kind of bell is used also in the main office to notify the operator when a signal has been given.

All wood work in the building is of quarter-sawed white oak, worked out with painstaking detail to avoid dust catchers. All door jambs are set one inch above the finished floor line, and the composition floor is carried up to the jamb, following the contour of the round corner rebate, specially made coved tile being utilized on tile floors to fit the jamb and casing. All hardware is plain, and locked and keyed in a way peculiarly adapted to hospital needs. All double and single-acting floor hinges are of the checking type. All windows are glazed with plate glass.

The building and its appurtenances, equipment, apparatus, machinery, and heating and ventilating plant, exclusive of the site and furnishings, cost $250,000. The nominal capacity of the hospital is 150 beds, which can be increased to 200 for emergencies, so that the cost of the building per bed is $1,666.00. The firm of Rose & Peterson, composed of William W. Rose and David B. Peterson, of Kansas City, Kan., were the architects of the building.

In this brief way we describe what may be considered one of the very best hospital buildings which we have inspected. The building is, indeed, an excellent one in every respect and reflects great credit on the owners and architects.

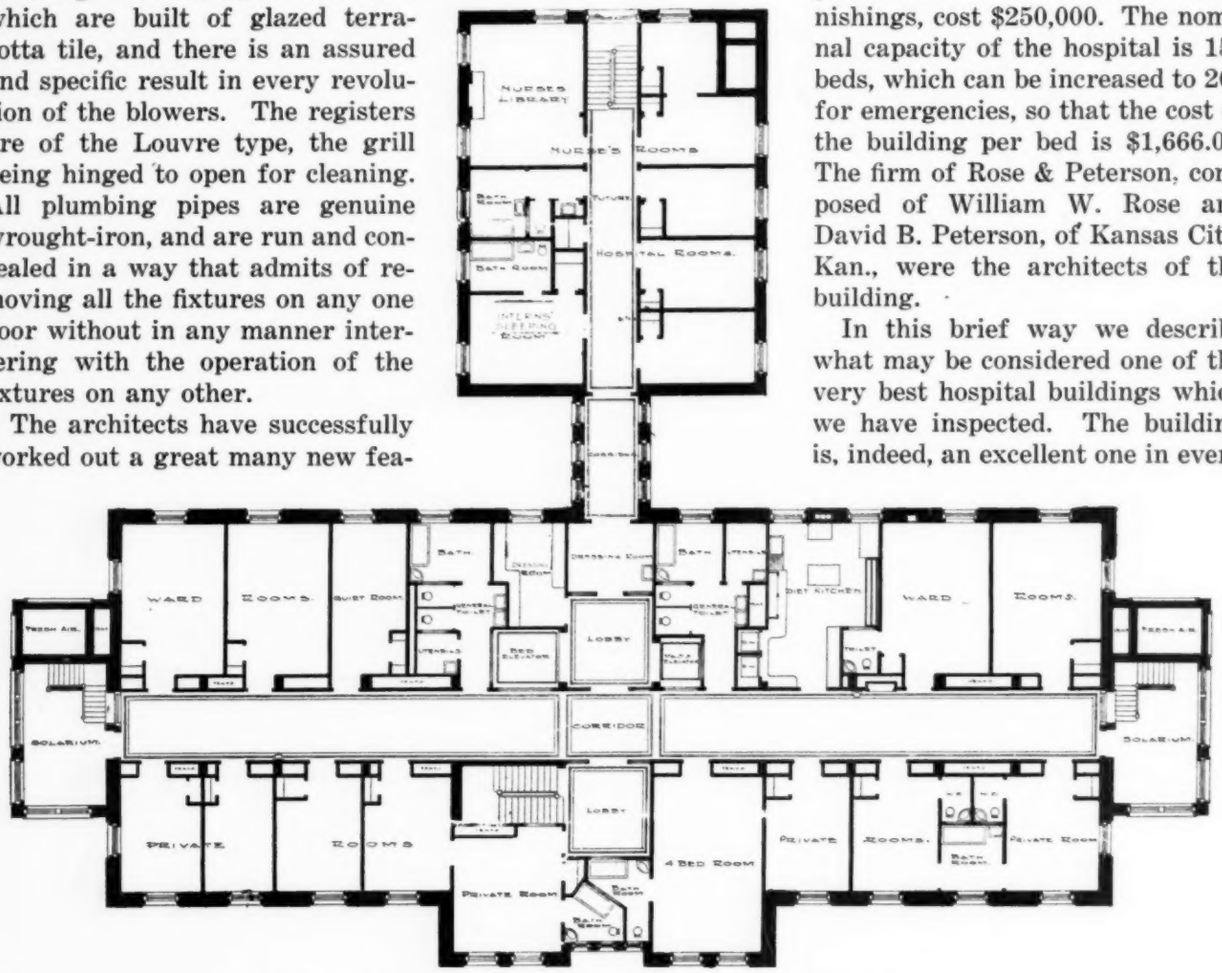


Fig. 6. Bethany Hospital. Typical second, third, and fourth floor plans.

Cleaning Silver by Contact with Aluminum in Alkaline Solution

The problem of cleaning silver involves the removal of the tarnish of silver sulphide by some method which will restore the polish to the surface of the metal. Briefly, the chemistry of the electrolytic process may be explained as follows: aluminum is electrolytically more active than silver, or, chemically speaking, it is said to be electropositive referred to silver. In the presence of an electrolyte like sodium carbonate or sodium chloride, or a mixture of both, aluminum forms aluminum ions in the solution and itself becomes negatively charged. The silver accordingly becomes positively charged as the current flows from the aluminum to the silver through the solution.

Dr. W. S. Moore and Dr. Draney, of Grangeville, Idaho, have purchased a hospital at Sand Point, in the same state.

THE SMALL COMMUNITY HOSPITAL—CONSTRUCTING THE BUILDING[1]

Materials—Foundation and Basement—Walls—Partitions—Roof—Floors—Ornamentation—Elevators—Refrigeration—Vacuum Cleaning—General Principles

By JOHN ALLAN HORNSBY, M. D., Chicago

PAPER IV

WHEN we are called on to write on the subject of the construction of the small community hospital, especially so when a whole type is under consideration, we are confronted with the difficulty of varying conditions in different communities. This is especially so inasmuch as there is a marked dissimilarity in the materials available and the quality and quantity of the labor to be employed. When we think of building a small community hospital, and are advising as to how it should be built and of what materials, we are compelled once again to think of the story of the old negro who was returning from a duck-shooting expedition with his old bored-out muzzle-loading musket on his shoulder, and bending under the weight of great strings of fine ducks. He was met by a city hunter who had also been tramping the marshes in his fancy shooting coat, with magnificent fowling piece, and arrayed like Solomon in all his glory, but bearing as his burden only the few decoys with which he had started out. "Uncle, how did you get all those ducks; did you shoot them on the wing?" the city man asked. "On de wing, on de haid, on de tail—anyway, jest so I git 'em," was the reply.

And so it is with the building of a small community hospital. If there are sufficient funds available to build the institution as it ought to be built, and out of the best possible materials, from a design made by an experienced and well-equipped architect in this class of buildings, so much the better; but the main point is that every community of 2,000 or 3,000 people or more that is thoroughly imbued with the spirit of American independence and self-respect, and is self-supporting, ought to and can have a community hospital—if for no other reason, as we have stated so often, than that the local medical profession shall have a workshop in which to prepare themselves with the requisite skill and experience to enable them to care for the community sick in time of need; and, even though the hospital should not take care of one single sick person to whom the community was obligated, the hospital, for the former reason, ought and would still be one of the best assets of the community.

We have discussed elsewhere the possibilities of remodeling at a small cost the abandoned residence or factory building or school house to supply temporarily the needs of the people with hospital facilities, and we will therefore not consider this phase of the question at this time.

Let us now think of a small new hospital—say, 25 beds—for which there are available funds, the amount of these depending on the extent and accommodation for the hospital to be erected, and for any future additions which might be added. Unfortunately, in considering the erection of a small community hospital, too often a committee is sent out to investigate hospitals, and the committee returns filled with the wonderful things it has seen in hospitals which are models in their own ways, but which have all the elements of extravagance without serving their purpose to any better advantage than the character of hospital we are discussing in this paper.

Under ordinary conditions where the demands are not for large specialized departments, this especially so in the administrative department, a 25-bed hospital, constructed as will be described, would not cost to exceed $25,000 to $30,000 where the proportion of wards and private rooms is in accordance with the modern needs. The addition of specialized departments and many private bath rooms and luxurious trimmings of one kind or another would necessarily make such hospitals cost infinitely more.

In the hospital described in this paper we are considering the bare needs of a first-class institution. Necessarily, all ornamentation and decoration must be eliminated, and a building erected in which we can install all the necessary facilities with which to care for the sick in line with modern medical demands.

The Foundation and Basement.—There is nothing better and nothing cheaper for the basement and foundation of such a building than concrete; it is serviceable, durable, looks well, and wears as well after many years as when it is first put in. This applies also to the basement floor of such a building.

Due to the unprecedented rise in the cost of some of the necessary products which are used in fireproof buildings, newer and cheaper methods have come into vogue, and after a careful investigation we think that the so-called reinforced skeleton construction, where all supporting members of the building and all floors of the building

[1] This is the fourth in a series of six papers on Creating, Organizing, and Managing a Small Community Hospital. Next month the organization will be discussed, administrative and medical.

are built of concrete with deformed steel rods, properly designed for the respective loadings, has the preference.

For the purpose of this paper we will call this the structure which in any case would be practically of uniform design for all such buildings, and, for the further purpose of the discussion, we will call all other portions of the building the externalization, by which is meant that portion of the building which incloses the structure.

THE WALLS.—There are several methods in which such an exterior could be constructed. First, these curtain walls, as they are called, can be made wholly of the hard-burned hollow clay tile. This can be obtained with glazed exterior surface, and, when stone is used in conjunction with this material, it can be left in the form in which it is laid, and makes a very beautiful and sightly wall, which can be plastered directly on the inside of the tile.

A second method is to make the entire exterior wall of a brick veneer, backed up with hollow tile of the same character of 8-inch thickness, making in all a 12-inch wall, the plaster being placed on the interior of the building directly upon the tile as in the first instance. Or, the entire wall can be made of a so-called 12-inch solid brick, in which case a 4-inch hollow brick should be used for the inside course, which will also directly receive the plaster.

The matter of ornamentation is one which necessarily must be left to the amount of funds available and to the architect's and committee's wishes in this matter. Stone, terra-cotta, and even cement may be used for such ornamentation. Cornices and ornamental courses can be cheapened considerably by using galvanized iron, but, if it is used, it will require the same care that wood would exact for the same purpose—i. e., frequent painting.

Another method of treating the building would be to make the curtain walls entirely of hard burned tile, putting a stucco exterior directly on these tile. There are other methods of building by using the interior structure of reinforced concrete, and making the exterior walls entirely of masonry, but this means a somewhat larger building, due to the increased thickness of walls in the lower stories.

In keeping with the fireproof character of structure, the floors should be made of concrete joist construction in which hollow tile are laid on wood staging, spaced 4 inches apart, and in these spaces are to be laid the necessary reinforcing steel and concrete poured into the spaces and over the top of the tile, the depth over the top of the tile to be at least 2 inches.

The roof of such a building can be made either with the same construction as the floors and furred up with cinders to obtain the proper pitch to the rainwater leaders, or else the upper floor can be placed in such manner that a slope is formed in the roof slab, and a suspended ceiling of expanded metal hung from this, on which the plaster is placed. If the money is not available for either one of these forms of construction, the ordinary joist construction can be used for ceiling and roof, and the roof covered with one of the so-called plastic roofings of pitch and felt, or asbestos and felt.

WINDOWS, FRAMES AND SASH.—Door frames and doors can be made of metal. While it is not so necessary to have the windows of metal—nor, for that matter, the doors—the frames for these doors should in all instances be of metal, inasmuch as they are much more rigid and serviceable than the wood frames, and will stand the strain of swinging doors without cracking the plaster, as is the case with wood frames and trim. The doors themselves can be of the flat slab type, and, if they must be fireproof, there are now in the market doors approved by the National Board of Fire Underwriters which are made entirely of wood, with asbestos layers under the veneers.

PARTITIONS.—The interior partitions can be made either of hard-burned hollow tile, gypsum, or metal studs, with plaster board. Any of these are acceptable. The laboratory of the National Board of Fire Underwriters had an exhaustive test made some two or three years ago, and found that steam or water played on the hot clay tile would break the tile and thus quickly make an opening into the next room, and the board found that gypsum blocks were to a very far greater extent fireproof than the tile, that steam or water played on the hot block would chip off an egg shell coat, and the continuous spray would keep on chipping off these infinitely thin scales until after a long time the gypsum block was worn down thin enough for the water pressure to break it through; but by this time it had served its purpose as a thorough fire retardant, and had permitted the fire to be extinguished.

The metal stud and plaster board partition has been found to be an exceedingly good fire-retardant of the same character as the gypsum block, but it is somewhat more expensive to erect than the gypsum block partition. Inasmuch as the entire structure would be of the reinforced concrete type as described, and there is no direct bearing load on any of these partitions, the lighter, more soundproof and more fire-retardant partition made of gypsum is probably more adaptable to this character of building. There is only one

objection to this class of partition—namely, that it will not bear the weight of wall plumbing fixtures, sterilizers, or heavy shelving as well as the hard-burned clay block, but this can be overcome by bolting through under the plaster with the proper hangers and bolts. Moreover, most plumbing wall fixtures are now made to have their entire weight rest on the plumbing stacks. One great advantage of the gypsum block is that it is made of the same material as the plaster placed upon it, and makes a homogeneous partition.

FLOORS.—Floors in hospitals may be put under three classifications: first, wood or parquetry floors; second, mastic floors, in which are included all molded materials, such as terrazzo, magnesium chloride, and those made of plastic materials, such as asphalts and elaterites; third, prepared floorings, which are laid directly on the cement with plastic compounds, in which are included linoleum, cork tile, and the many forms of art tile. While marble floors might be considered under this heading, they are not adaptable to hospital purposes except for ornamentation.

The above are again subject to classification under each heading. Wood floors are almost obsolete in wards and patients' rooms, because, after they are dried out, large cracks open up which can easily harbor microorganisms and interfere with aseptic conditions in the hospital. Further, they require continual care. Of the second classification, one of the most satisfactory floors is the terrazzo floor, laid either directly on the rough floors or laid in cement in the hexagonal blocks of 12-inch dimension. The latter has the advantage over the former of being much more easily repaired, inasmuch as even the best terrazzo floors, with the settling and shrinkage which occurs in almost all buildings, will crack, and up to the present time there has been no method devised of repairing these monolithic floors without showing such patches. These terrazzo floors have the disadvantage of being hard and having no resiliency. Even with such floors installed, it is necessary, especially in the corridors, to put down continuous rubber matting or linoleum for the purpose of quietness and to prevent the ills due to continuous walking, such as nurses are called on to do, upon such hard surfaces.

In the judgment of the author there is no flooring within the financial reach of the average small hospital that compares to a good grade of battleship linoleum, properly seasoned before laying, and laid properly by people who make that a business. This linoleum comes in three forms of acceptable type—one is the uncolored terra-cotta; another is an olive green, which is made up with a coloring matter, and which will eventually fade; and the third is the so-called marbleized linoleum. This comes in ⅛-inch thickness, whereas the other two are ¼-inch thick. The marbleized linoleum is very pretty and desirable for private rooms and for wards when it can be afforded.

Most of the corridors in these small hospitals will be 6 or 7 feet wide. The ordinary battleship linoleum comes in 6-foot widths, and will just fit a 6-foot corridor. If the corridor is 7 feet, the turned cove base projecting 2 inches beyond the wall line, a 4-inch strip either of the same material, but of a different color from the cove base or another color linoleum, can be run along these 4 inches, and the 6-foot space filled with the terra-cotta linoleum. Some hospitals use terrazzo cove base and the same material laid plastic for the floors.

In service rooms, store rooms, diet kitchens, and toilet rooms, terrazzo is admirable. The best floor under all circumstances is either the compressed cork in small squares or the so-called cork linoleum floors, either in the small squares or in figured form. These cork tile can be obtained in a great variety of colors and are practically indestructible. If perchance an accident should happen to some of these tiles, they are very readily removed and new ones put into their place. Under continuous wear for years, they practically show no variation in thickness. The objection to these floors is merely one of cost, inasmuch as in a hospital of the size and character under consideration such floors would cost practically 15 per cent of the entire cost of the building. The so-called plastic floors made of elaterite have the one vital objection of being obtainable only in dark brown or light red and gradations of shades between these two. They are laid directly on the concrete slabs and are of ⅛-inch thickness, and are not only soft to the tread, but are thoroughly impervious and sanitary. They are not adaptable to main kitchens or laundries where considerable grease is liable to drop on them. Aside from their color, they are one of the most serviceable floors that can be obtained, and one great advantage in their favor is that they are exceedingly reasonable in cost. A comparative list of cost of the above floors is given herewith:

Wood floors, laid complete, cost about 15-16 cents per square foot. Parquetry floors, depending on design, 30-50 cents per square foot, laid complete.

Second class.—Terrazzo floors of the monolithic type, without base, 20-25 cents per square foot. Terrazzo floors, block type, 25-30 cents per square foot.

Third class.—Cork tile, 50-60 cents per square foot. Cork linoleum type, 45-50 cents per square

foot. Battleship linoleum, ¼ inch thick, 20 cents per square foot. Battleship linoleum, ⅛ inch thick, 18 cents per square foot. Mastic floors (elaterite), 15-18 cents per square foot.

Floors for operating rooms may be one of the softer materials, perfectly red in color, or of terrazzo, either plastic laid or in the slabs; or, for those who are still committed to the "all white," vitrified clay tile, 3 inches in diameter, hexagonal in shape, or 6 inches square. These tiles are white or light gray, and, though they darken with age, they are easily cleaned. All of these floors should be laid to a cove base. There are now on the market cove bases made of metal, which are less expensive than any other form of base. They can be placed complete in a hospital, so that the plaster of the wall and the floor line is complete with their upper and lower edges, making practically a continuous surface from floor to wall, at less cost than even an ordinary cement base. When painted a somewhat different color than the walls, even to simulate the color of the floor, they are not only sanitary, but very sightly. Necessarily the price of all floors would depend somewhat on the locality in which they are laid. It is obvious that a good floor must be laid by experienced men, and, if the small community is at a distance from a large city, the matter of expense of sending experienced men to do the work would necessarily add to the cost of all floors. The matter of wall covering, particularly that for toilet rooms, operating rooms, and working departments of this character, is one which must be treated from the point of view of the means at hand. A wall well plastered with hard finish, properly treated and enameled, will serve the same purpose as wood, expensive wainscots of glass or marble, or even tile. The latter are desirable to some extent, but do not serve their purpose any better than the former.

The decoration of the hospital is one which must be left entirely to the authorities of such institutions and the amount of money which they wish to spend. If the hospital is to be decorated immediately, it should be done with one of the so-called cement coatings, which can be applied in two coats to both the woodwork and the plastic walls. This material is not only sanitary, but is washable, and makes an admirable undercoating for any decorative scheme which it is decided to adopt at a later date. Until the hospital has thoroughly weathered and assumed its ultimate position in the matter of settlement, the most economical wall decoration should be used. At least one and preferably two winters should pass before the permanent decorations are put into the building, so that the difference in temperature between the inside dry heat of the winter and the outside dampness of the open window period will have caused the final settling of all of the thousand component parts which go to make up the structure and which cause the small and often larger cracks in the building.

THE ELEVATOR.—As it is always a difficult thing to get patients up and down stairs, if it is possible to have a push-button electrically operated elevator, sufficiently large to contain a stretcher or cot, it will be a great convenience, and this elevator in such a case will run from the basement up to the second floor, which is usually the top of the house in a small hospital, and in that case the same elevator can be used for any purposes of transportation, especially to carry visitors and nurses and doctors up and down. There is a tendency too often to use this one elevator for conveying soiled laundry and garbage, and this custom is in violation of good hospital practice and ought not to be countenanced. An elevator will cost about $3,000, but it will pay for itself in convenience in a short time. If the funds are not available for this class of elevator, one of the lever-type elevators, operated from the inside of the car, may be installed at less money.

Dumbwaiters may be simple or complex, but there certainly should be at least one in even the smallest hospital to convey foods, drugs, and other light articles up and down to save running the stairs. There are very good hand-operated dumbwaiters that have compensating devices to regulate the weights, and these do very well if properly installed by reliable manufacturers. Then there are the electrically operated dumbwaiters, with necessary safety devices to make accidents practically impossible. Where the hospital can afford it, these dumbwaiters are worth while, but they are necessarily expensive, comparatively, costing from $1,000 to $1,500, and require current for their operation.

VACUUM CLEANING.—As yet vacuum cleaning as a hospital routine is a mooted question. There is no possible doubt that the vacuum cleaner will keep the hospital far cleaner than it otherwise would be, because it will remove dust not only from the place where it has settled, but takes it out of the hospital entirely, so that the dust will not have to be chased from place to place, as it has to be with brushes and dusters; but it might be just as well understood first as last that a vacuum cleaner is not going to save the hospital any money, because every process of cleaning that is done by the vacuum cleaner must be done otherwise also, and it may also just as well be understood that the vacuum cleaner of today has its limitations. It will

not pick up mud from the floors and it will not take soot from the walls; however, the tools for vacuum cleaning have been greatly improved in recent years and will do things now that were impossible a few years ago. For instance, there is a tool to go into the radiators and suck dust out from the sections; there is another tool that can go into corners, both of floors and walls, and there is even a tool shod with a soft material that will permit the cleaning of furniture without scratching it. The main use of the vacuum cleaner in hospitals, however, is to clean the rugs on the floors and to clean the dust from the floors and walls and ceilings, and to pull the dust out of the mattresses and whatever upholstered furniture there is. One may install a vacuum cleaner for almost any price, from a few dollars up to thousands. The portable cleaners that are taken into rooms and wards are not desirable in hospitals; they make too much noise. In new hospitals vacuum cleaner pipes may be run up the pipe shafts along with other piping, with outlets on each floor. In hospitals already built the piping may be run up the elevator shaft and outlets drawn through the walls on each floor. This is a very good method in hospitals that are already built. This piping may be done by the average hospital engineer, and is not an intricate process. In a certain hospital, where there are three elevator shafts in different parts of the building, piping was run up each shaft and carried along the ceiling of the basement floor to a common point where a vacuum cleaning machine was installed. Manufacturers had asked from $1,800 to $3,000 to install a vacuum cleaning system. The piping was installed eventually by the hospital engineer at a total cost of approximately $200, the machine cost $300, making a total outlay of little more than $500 for the complete equipment, and this was a hospital 300 feet long, of seven floors. A hospital that contemplates putting in a vacuum cleaning system should select very carefully, because there is a vast difference between the products of different manufacturers. Some of them are very much in advance of others.

Refrigeration in the small hospital has been recently standardized so as to eliminate what has heretofore been apparently insurmountable. There has always been a question as to the economy of refrigerating apparatus in the smaller institutions. It was a problem how the small institution could afford to operate a refrigerating plant. This point is now satisfactorily settled. The manufacturers of the carbon dioxide machines, using a circulating system of calcium chloride brine for cooling the boxes and making ice, have perfected small unit machines for installation and operation in very small institutions, and at prices that such institutions could afford to pay. The great advantage of refrigeration is the ease with which temperatures can be maintained evenly at all times without the necessary noise and muss accompanying the ordinary icing methods. Some quantities can be made readily for ice packs, and, when this ice is broken and put into cans and placed in the cooled chamber of the refrigerator in the diet kitchen, the ice will last practically indefinitely. One of the principal points to be taken into consideration in refrigeration is that it is a dry process, and, in consequence of this, quantity supplies can be purchased at wholesale rates and kept indefinitely, whereas with the moist system of melting ice to maintain temperature, in such boxes meats and vegetables spoil very quickly, due to the moisture which hastens decay. Further than this, lower temperature can be maintained with artificial refrigeration than can be with ice. An installation of this character should be so designed that the brine which is circulated to maintain the temperatures in the refrigerators, which circulation is done by a small pump in such manner that the compressor—or, in other words, the machine which makes the brine cold—should be operated only for the minimum length of time; and, if the installation is so proportioned that this can be done, then the compressor or larger machine needs to run only for a short space of time in the morning and in the evening. In the refrigeration installation the machinery is located in the basement.

We have now suggested some of the materials that go to make up an ideal modern small community hospital. Many of these institutions will not be able to afford a good many of these materials and some of these modern conveniences, but the problems ought to be met frankly and fairly in each hospital. There is the question, for instance, of fire protection; but the question of fire protection is no more important than the problem of asepsis and disinfection and cleanliness of the premises.

Fire Protection and Asepsis.—Fire protection involves the use of fireproof materials that will permit the cleaning of every crack and crevice of the institution. Some hospitals will not be able to afford one any more than another of such materials, but always, in planning a new hospital or in altering an old building for hospital purposes, the board of trustees and the architect and the superintendent of the institution must take these items into consideration and give them their proper weights in the final selection. If it is decided eventually that a fireproof hospital cannot be afforded, and thus proper protection given to

patients, then the other horn of the dilemma must be chosen, and such exits and points of egress must be found as will permit the removal of patients on the shortest notice; and more than one exit must always be available, and these exits must be of such character that bed-ridden patients can be handled through them on stretchers or cots, or otherwise. Large balconies, with direct egress and stairs to the ground, should be provided, so that patients may be taken from the building as quickly as possible and from these safety balconies to the ground. These balconies make admirable sun and sleeping porches at the same time.

This same kind of solution of the problem of asepsis and disinfection is always possible. If wood floors must be used and acute corners, then the floors must be properly treated, so that they will offer the least inviting residence for microorganisms. Square corners must be sealed, and capable of being reached by cleaning brushes and cleaning solutions, and it must be thoroughly understood that it will cost more to keep such a hospital clean than one that is properly built along modern lines. In other words, somebody will have to work harder or more people will have to be employed to do the work in a hospital that does not contain modern conveniences and is not a modern structure. In a final analysis, the more expensive architecture and the completer conveniences will pay; they will pay in reduced cost of upkeep over a long period of years and they will pay by reducing the pay roll of employees.

In presenting the above it is not the object to urge its consideration where the community's finances will not permit of the construction of such buildings, and it is not our object to discourage communities from proceeding with the construction of the best hospital the community can afford. As we said at the outset, the main point is to get a hospital; every effort should be made to get the right sort of hospital, but get your hospital, and conduct it in such a way that the community will soon realize its value, and it can be safely promised that a hospital properly conducted need not want for funds for its maintenance in any community in this country. If such a hospital is poor and without funds for its proper conduct, the fault lies at somebody's door. Generally speaking, financial stress in these small hospitals is due to want of two things—want of confidence on the part of the community because of the character of the work done in the institution, or because the hospital is badly managed on its physical and psychical sides.

WHERE WELFARE OF EMPLOYEES IS CONSIDERED OF GREAT IMPORTANCE

The Westinghouse Electric and Manufacturing Company Conducts Systematic Welfare Work—Compensation in Case of Sickness or Accident—Pension System

By M. C. TURPIN, Pittsburgh, Pa.

THE welfare of employees is considered of great importance by the Westinghouse Electric and Manufacturing Company, and accordingly is given a great deal of attention. Much time and a large amount of money have been spent in bringing all branches of welfare work to a high state of efficiency. The scope of this work includes old age pensions; compensation for accidents occurring during discharge of duties, with payments during periods of disability and free medical and surgical attention; a savings bank for employees; a technical night school; a club equipped with reading, lecture, and recreation rooms, and a gymnasium, where employees may find diversion during evening hours; and lunch, rest, and recreation rooms at the plant for the benefit of the women employees.

A great deal of the welfare work is conducted by a relief department, under the direction of a superintendent, who has a medical director and a number of medical examiners under his jurisdiction. Here any employee may receive medical or surgical attention free on account of accident or illness occurring while on duty. Compensation during disability is also provided when such disability is due to accident occurring during discharge of duties. The payment of small monthly dues entitles an employee to further benefits on account of sickness or accident from causes other than employment. In the event of death these latter benefits are duplicated by the company. If death results from an accident occurring while on duty, pensions are paid to dependents. A pension plan is also in effect, and employees of the company who are members of the relief department, and who at the age of 70 years have completed twenty years of continuous service, are retired on a pension of 1 percent of the average monthly wages during the last ten years of employment for every year of continuous service, with a minimum of $20 a month and a maximum of $100 a month.

The company pays the entire expenses connected with the maintenance of the relief depart-

ment, including equipment, supplies, and salaries. All sickness and accident benefits are paid by the relief department from the dues contributed, except for accidents occurring in the plant, for which compensation is provided by the company, as previously mentioned.

In order to care adequately for the accident and sickness cases occurring while on duty, the relief department is divided into divisions, the main one being the men's division. Recently a separate division for women has been opened, and in addition there are six auxiliary divisions. Each division has the necessary equipment to enable those in charge to take care of cases requiring medical attention and minor surgical operations. In all, ten physicians, three trained nurses, and a number of attendants are employed. First aid is given only to cases requiring hospital treatment. When it is necessary to send an employee to the hospital for treatment, the company provides an automobile for that purpose.

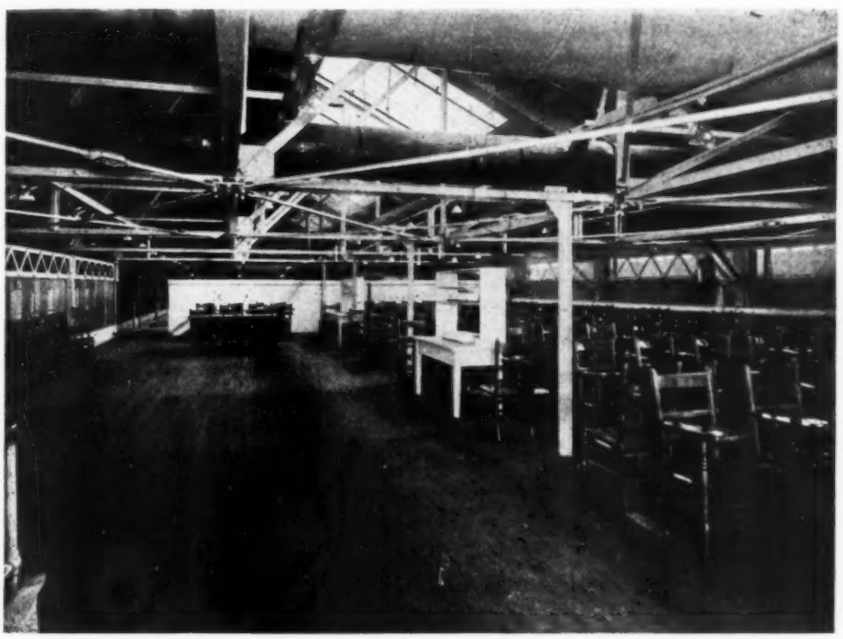


Fig. 1. Westinghouse Electric and Manufacturing Company, East Pittsburg. Women's lunch room.

The main men's division consists of receiving, examination, and dressing rooms, a rest room, an x-ray room, and a supply room. Four physicians are in attendance at the receiving room, and this room is equipped with a complete supply of medicines, bandages, and dressings. In addition, there is a magnet for removing pieces of metal from wounds quickly and painlessly. The x-ray room is furnished with a modern machine for examinations. The rest room has sanitary hospital cots, and the supply room contains a reserve stock of medicines and bandages. This division attends to about 450 cases a day, about 120 of which are new accidents. An average of one-tenth of the number of patients have to go home, and one-tenth of these are disabled exceeding fourteen days. The usual disability, however, owing to the expert attention given, is under five days. Accidents to eyes and fingers are the principal cases, and the injuries to eyes are usually the result of one of two causes—flying emery or dust.

The women's division is located in a section of the plant easily accessible to the majority of the women employees. Formerly this division was a part of the main men's division, and it was then necessary for the girls to go to the main division for treatment. It was noticed, however, that they were not taking as full advantage as they might of the privileges

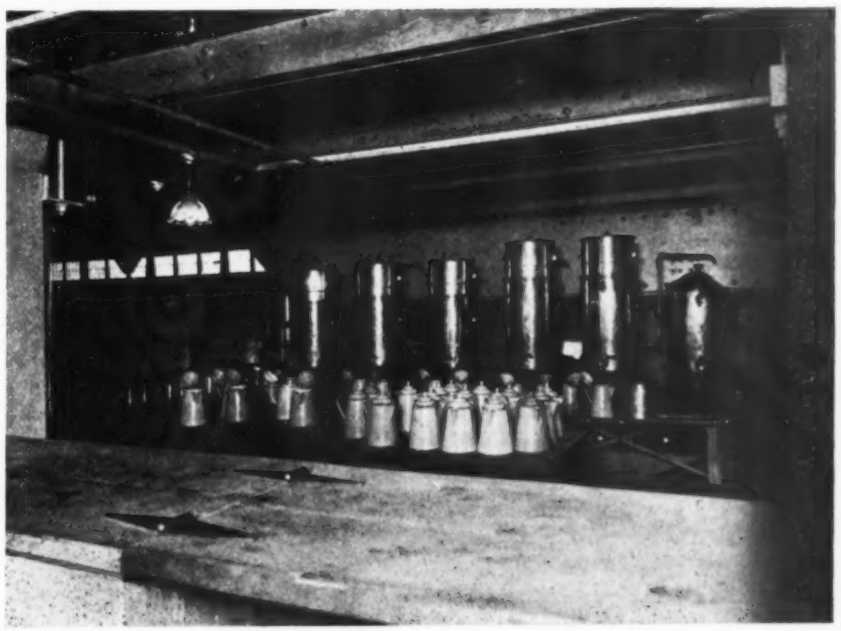


Fig. 2. Westinghouse Electric and Manufacturing Company, East Pittsburg. Specially designed coffee percolators used in connection with women's lunch room.

afforded, and after investigation it was decided that the division was located too far away from the sections where they worked, so a separate division was fitted up. Now a greater number of girls visit this division in a day than formerly went to the main division in a month.

Similar to the men's division, this division has

Fig. 3. Westinghouse Electric and Manufacturing Company, East Pittsburg. Treatment room of the women's division.

a receiving room, rest room, and wash room. The receiving room is equipped for the performance of minor surgical operations. The equipment includes a supply of medicines, bandages, and dressings; a complete set of instruments, kept sterilized; eye examination and treatment chair; eye lamp; electric water heater; electric sterilizers; electric fans; linen chest and towel cabinet. The rest room contains six sanitary hospital cots, where girls may rest when sick or injured. Two of the cots are equipped with electric heating pads. The furniture of this division is finished in white, the walls are painted green, and the windows have dark-green shades, so that the room may be darkened. Everything is spotlessly clean and the entire appearance is exceedingly inviting.

The women's division is open from 7 a. m. to 5 p. m., including lunch hour, and the services of those in charge are available to any of the more than 2,000 women employees, whether members of the relief department or not. Should a girl meet with an accident or be taken sick, she is taken to the receiving room of this division, where proper attention is given her by a trained nurse. Should the case be serious, a physician is called from the main men's division, who then assumes charge or gives the necessary directions. Not only are cases requiring medical and surgical treatment taken care of in this division, but the girls frequently come to ask advice on various questions in connection with their work, health, home life, and other subjects, all of which is cheerfully given.

An interesting feature of the welfare work at the Westinghouse plant is the lunch, rest, and recreation rooms provided for the women employees. In the lunch rooms comfortable dairy chairs are installed. The girls furnish their own lunches, but tea, coffee, and milk are supplied free by the company. Every day nearly seventy-five gallons of tea, coffee, and milk are used in one of the rooms. The coffee, ground by electric grinders, is made in large, especially designed percolators. The cups

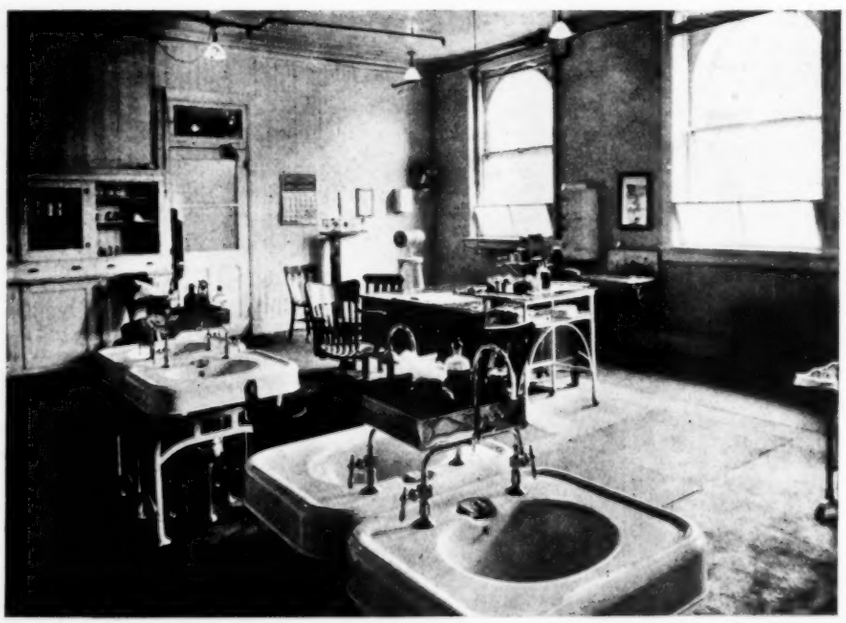


Fig. 4. Westinghouse Electric and Manufacturing Company, East Pittsburg. Treatment room of the men's division.

are washed by an electric dish washer. Popular magazines are available, so that the girls may pleasantly spend the remainder of the lunch hour. These rooms afford a clean, comfortable place for passing the noon hour, and they are well patronized.

Fig. 5. Westinghouse Electric and Manufacturing Company, East Pittsburg. Electric magnet for withdrawing particles of steel and iron from the body.

The Westinghouse Electric and Manufacturing Company has been a leader in the betterment of working conditions and in protecting its employees from injury. In the construction of the plant careful attention has been paid to providing healthful working quarters, and the sanitary arrangements are of the most approved character. Carefully designed and efficiently maintained lighting and ventilating systems contribute to the comfort and health of employees. Pure water is furnished by artesian wells, artificially cooled, and pumped through plant.

Not content with waiting until accidents occur and then taking steps to prevent their recurrence, it is the policy of the company to eliminate all possible sources of injury by continual and methodical investigations. The safeguarding of machines and processes is placed directly in charge of a thoroughly trained mechanical engineer. Special care is paid to the guarding of gears, line shafting, belting, crane runways, electric wiring, industrial railway tracks, and crossings, and to protection from processes either hazardous in themselves or giving off noxious gases. To insure the constant effectiveness of the safety devices, they are inspected at regular intervals. Despite the most extensive use of safety devices, experience shows that some injuries are likely to occur in any large plant, due to an inherent factor in the human being. Careful investigation in the works of the company shows that but one-fourth of 1 percent of the disabling accidents occur owing to the absence of safeguards, while 22½ percent are the result of carelessness.

THE MODERN HOSPITAL AS A HEALTH FACTORY

The Individual No Longer the Dominant Factor—Good Health of Humanity in General Is the Product—Factory Principles Should Obtain—Division of the Work According to Modern Business Demanded

By FREDERICK D. KEPPEL, M. D., Cazenovia, New York

THE Latin word "hospis" is the root of the modern words "hospital" and "hospitality." The word "hospital" refers to the place or building where guests are received, while the word "hospitality" refers to the manner in which they are received and treated during their stay. In a broad sense, a hospital is a place where guests are entertained without reference to their state of health.

It was common during the middle ages to speak of the places set apart for lepers as " 'spitals," the word being defined as something ejected or thrown out. This definition is not very far wrong when applied to sick people generally, for when one is ill he is temporarily cast out from among the physically fit. As we accept the word, a hospital is an establishment for the care and treatment of the sick or wounded, and I will try to prove that the hospital as an institution is far more important than any or all the sick who may be under the care of its staff at any time.

Probably the first move toward hospital treatment was made when separate camps were prepared for sick or slightly wounded soldiers, making it more convenient to treat and care for them. The modern hospital is conducted on about the same theory as were the camps and retreats of earlier times; that is, buildings are provided where the sick may receive more convenient care and treatment, and, while we have made surprising advances, we still look on the patient as the main consideration, and continue to multiply a patient, a nurse, and a doctor by a number representing the bed capacity of the institution, mak-

ing all our plans on this proposition as a starting point. I shall try to prove that this is a wrong premise, and that a hospital is in reality a factory in which broken and diseased persons are repaired as far as human ingenuity permits.

A sick person is not only a nonproducer of wealth—he is also a destroyer of it. When an individual becomes incapacitated for work through illness, it is evident that his regular work must be left undone or a second person must do it for him; a third person must attend to the invalid's wants, and a fourth person, acting in the capacity of attending physician, must give part of his time. Hence it will be noted that every sick person consumes the wealth-producing capacity, for at least a part of their time, of four people. This condition of affairs has led thinkers to conclude that it is more economical to get all this nonproducing material into one large building, where fewer people will be employed in the care of these temporarily worse than useless men and women, and the hospital has been the result.

The question before us is, Which is the more important to the community at large—the invalid or the plant which provides for his care and treatment? If we look at the problem from the point of view of the sick man and his family, we will at once conclude that he is of the greater value, but, if we observe conditions from the standpoint of the political economist, the invalid becomes a mere incident, while the institution which changes him from a nonproducer into a worker is of the greatest importance to the general public.

A few years ago parents taught their children at home or employed a competent person to do the work for them. Some bright investigator discovered that one tutor could teach several children about as easily as he could teach one, and the private school was the result. By observing the superiority of the educated youth over the uneducated, the community decided that it would be well if all children should receive a certain amount of mental training, and, because many parents could not afford the expense of a private school, the state took up the burden and provided free schools, where any child could be sent if his parents thought best to educate him. It will be observed that up to this point the child was the important consideration; but, as time went on, those who made teaching a study awoke to the fact that the child was simply raw material, and it became apparent that it was far more important to provide suitable buildings and equipment, where all the raw material might be turned into good citizens, than to educate any special group of children. This theory has been perfected until every child must attend school in spite of the wishes of either himself or his parents. The hospital is an absolutely identical proposition. We are, however, about at the private school stage in our development and must advance toward perfection. If sick people and ignorant children did not exist, then there would be no use for either hospitals or schools, but illness and ignorance are facts to be faced, and institutions must be provided where the raw material of either class may be converted into a finished product.

The average citizen will hardly take the trouble to notice a funeral procession or a crowd of children on the street; still, if questioned, he will point with pride to three classes of public buildings—namely, the churches, the schools, and the hospitals. Very few people care to inquire into the spiritual, intellectual, or physical condition of either chance acquaintances or strangers, and yet all of us will become enthusiastic when discussing the institutions which specialize on the spiritual welfare, the education, or the health of the community at large. If we have arrived at the point where we can read or speak of the educational or religious institutions without wonder, why can we not think of the health institution in the same way? We think of the church as an institution, the school as an institution, but the hospital is still a building where Smith, Jones, and Brown are lying sick and receiving care.

If I have succeeded in proving that the hospital should be looked on as an institution or health factory, rather than as a building where certain invalids are receiving care and treatment, it may be well to consider ways and means looking toward the improvement of present conditions.

It would seem that the whole question of successful hospital management revolves around the proposition which I have attempted to prove—namely, Which is the more important to the community at large—the collection of invalids or the institution which specializes on the conversion of the nonproducing and wealth-absorbing sick men and women into wealth-producing citizens? If we accept the former theory, we will be looking at the subject from the standpoint of the retailer in business, who expects to get his profit from the small, detailed sale; while if we give our assent to the latter view, we will be looking on the question of hospital management from the point of view of the wholesale man, who looks for his profit from mass sales to the smaller dealers.

If the hospital really is an institution which specializes on changing an invalid into a healthy person, then the hospital is to all intents and purposes a manufacturing plant, and any scheme looking toward its successful management must

be similar to the schemes used in other manufacturing establishments of equal size and grade. We will, however, find one very great difference between the plant intended to work up the raw human material and, for example, a woolen mill. When the executives in charge of a woolen mill contemplate a reduction in manufacturing cost, they look for machinery to take the place of the more expensive hand labor. In the hospital we have very little machinery to use, and, if we wish to improve conditions, we are forced to make the employee more efficient than formerly. I believe we have about reached our limit in the effort toward improving conditions or in decreasing the patient day expense as long as we continue to work on the theory that the invalid is the important consideration; but if we take the view that the institution is of paramount interest, then most of us will find ourselves on the shore of a great unexplored ocean, where we have thus far only picked up and admired a few pretty stones and shells.

The rules governing any successful manufacturing plant are the same in a general way as those used in every other plant running at the same grade of efficiency. When we consider the hospital as a health manufacturing plant, we find that about the same management is required as for other industrial establishments of equal size. Hospital stockholders include pretty nearly everyone who has shown interest in the institution, and it would not hurt the finances of a number of hospitals if the casual visitor were treated with the courtesy a manufacturing establishment would show to a stockholder.

The board of trustees in most hospitals has duties similar to those generally assumed by a corporation board of directors. The average hospital superintendent is such in name only. In reality he is a manager of petty detail, most of which should be shouldered by the heads of departments. The resident head should not be worried with the details and little problems arising in the daily work, for, if he is, he will have no heart for the larger duties of his office. It is against nature for a tired man to be courteous, and discourtesy spells failure, even though the superintendent has all the other good qualities. The hospital superintendent should be made of the sort of material which goes to make up the successful general or admiral; but he should be more than this, for he is dealing with men and women whose duty it is to care for the sick, encourage the suffering, and to be a guide and stay to those who are dipping their feet in the dark river of death. While he must be able to order the charge, even when he knows he cannot bring himself or his followers out of it alive, still he must have sympathy and "the common touch" sufficiently to impress his subordinates with the fact that the poor, ignorant, and dirty occupant of a charity bed is still a human being, with capacity to suffer keenly, and not, as some would have us believe, simply a case. Show me the superintendent, and I will soon tell you why a patient experienced the treatment he received from nurse or employee.

The hospital work logically divides itself into five departments—namely, staff, nursing, cuisine, house management, and finance. It is universally acknowledged that four of these department heads should be in residence, but that the statement what is true of four is equally true of the fifth appears to be a new thought. The staff, as a general rule, is an outside body, neither taking orders from nor answerable to the hospital authorities to any great extent. The staff is the highest trained department in hospital work; their duties are entirely mental, and it would seem that, when the daily clinical work has been finished, they should be relieved from the legislative and other detail work which many institutions pile on them.

It seems to me that the chief of staff should be in residence. He should be a man of sufficient standing to demand the respect of his colleagues, and his authority over the staff ought to be as great as that of department heads in industrial vocations over equally high-grade help under their jurisdiction. The chief of staff selected by any sensible superintendent would scarcely presume so far as to dictate to a competent physician, but he should have supervising authority and ought to check incompetent or dishonest treatment. In appointing an officer to this important position, the superintendent should act only after he has consulted with the various members of the staff and thus learned their preferences.

It would seem that this idea of a resident chief of staff would raise the dignity of every man connected with the hospital service, for any physician who retains his position from year to year would have prima-facie evidence that his services are of a kind to raise the standing of the hospital, and in a very short time this reputation would react on the individual by raising him in the estimation of his brother physicians and of the community at large. The only changes I would suggest in the other departments would be to broaden the authority of each chief and to organize the five heads of departments into an advisory board, meeting regularly with the superintendent, to discuss plans for the betterment of hospital conditions.

When it is generally understood by boards of trustees and superintendents that a hospital is too big a proposition for one person to run successfully, when the heads of departments are allowed to assume the honors and responsibilities of management in their respective divisions, and when cooperation and team-work has been fully organized, we may look for a sharp increase in the efficiency of the hospital force and probably a decrease in the patient day expense.

THE CONTAGIOUS BUILDING, MEMORIAL HOSPITAL, NEW LONDON, CONN.

Unit System of Nursing Care of Infectious Diseases Depends on Observance of Simple Technic—Some of the Features in the Building and Incidents of the "System."

By MISS NELLY R. BURBY, R. N., Superintendent

Fig. 1. Memorial Hospital. Contagious ward.

THE contagious ward of Memorial Hospital, New London, Conn., was opened for patients in February, 1914. The unit and aseptic technic followed is rather unique when we compare our present-day methods with the time when all infectious diseases were isolated to the exclusion of all, and consequently the neglect of the patient. Today, with our enlightened ideas concerning contagion, we are enabled to care for such cases with comforts not possible in the ordinary home.

The new ward stands 80 feet from the older building, and is connected with a tunnel, which enables one to travel back and forth without exposure during stormy weather. Nurses are sent to the contagious ward in their senior year or, as has happened recently, in the junior year after having had training along aseptic lines. A graduate nurse is in charge, and immediately begins her instructions when the new arrival reports for duty.

It is understood that nurses in the school take this training, and, judging from reports of the physicians here in New London, the recent graduates have proved a Godsend. We are all aware of the natural fear of infection, and oftentimes it has extended into the nursing ranks, but we must condone this rather than condemn, as a great many nurses have not had opportunity to improve themselves along these lines.

Our nurses are allowed full freedom when off duty, and also room in the nurses' home. While in training, their lives, at best, are trying, and apt to leave them with narrow views of life unless some effort is made to combat the influences which lead to this condition. To increase their efficiency and broaden their outlook, we insist on plenty of time off duty and out of doors. To do this requires, of course, plenty of nurses, and we attribute our gratifying results to just this.

In two years we have had one cross-infection, which occurred during the first month, and two nurses contracted diphtheria—one from being overzealous and had gargled her throat until she had made it fertile ground for infection, and the other we trace to having been spat on during intubation.

When a patient is admitted, he is given a separate room. All clothing is wrapped in a sheet and

sterilized, ready to be worn when patient is dismissed. After a patient has been discharged, the mattress, pillows, and blankets are sent to the large sterilizer, and the walls of the room, bed, table, and floor are washed in pyxol solution 1:500. The room is well aired at all times.

This winter we cared for an epidemic of diphtheria without cross-infection; indeed, once the unit system is introduced, the life of a superintendent is made comparatively happy, as the infection among nurses is minimized.

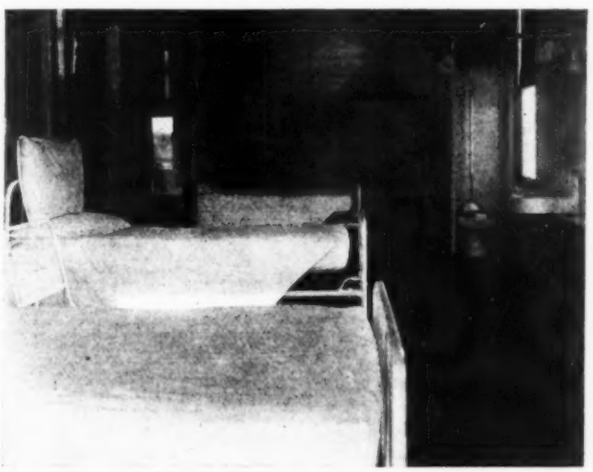


Fig. 2. Memorial Hospital. Room containing three beds where patients have been "barriered."

Last June New London was visited by a smallpox epidemic. We cared for eighteen cases in the lower part of the building without trouble and at comparatively small cost to the city. During the year our unit system has enabled us to care for scarlet fever, diphtheria, mumps, measles, whoopingcough, follicular tonsilitis, and erysipelas.

Fig. 3. Memorial Hospital. Contamination room. Orderly placing infected clothing in sterilizer. This sterilizer extends through the wall into the clean room.

Daily rounds are made in the contagious ward, the same as in the general wards, and up to the present time no ill effects have resulted. Before going on duty, nurses remove all outer garments in a room provided for this purpose, and opposite is a room where clothing worn while on duty is kept. This exchange of clothing is made every time a nurse leaves the building, and the nurses do not come in contact with patients unless gowned. Each room is equipped with running water, and a nurse must wash her hands after doing or touching anything in the line of duty, no matter how trivial. It becomes "second nature" to stand away from each other. Skirts are fairly short, and caps are made to cover the hair completely.

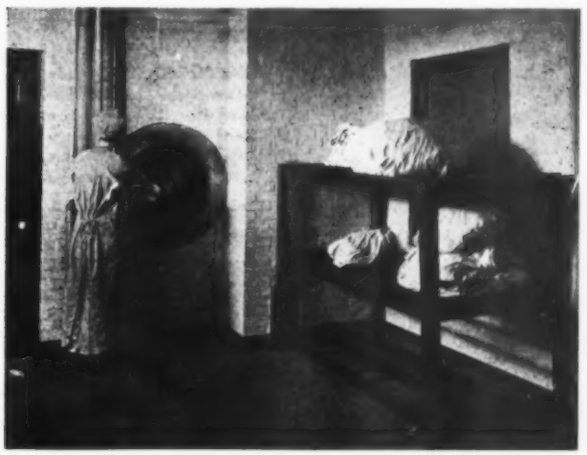


Fig. 4. Memorial Hospital. Clean room. Nurse removing sterilized clothing.

In a room containing more than one bed we sometimes "barrier" a case. The patients are kept as much separated as though they had a single room. The system when properly employed will prevent transmission of disease. Our nurses are taught, when suspicious symptoms are observed, to immediately "barrier" a case until arrival of physician.

The Allentown Hospital, of Allentown, Pa., is the recipient of a gift of $50,000 from Mrs. Sarah Catherine Hunsberger of that city. The money comes from the estate of the late Reuben Ryle, of the Allentown Silk Company, whose father is said to have manufactured at Paterson, N. J., the first silk made in America. Mrs. Hunsberger was Reuben Ryle's housekeeper, and under his will was bequeathed certain property plus whatever cash he had in the bank at the time of his death. Between the time of the making of the will and the death of Mr. Ryle, $50,000 in bonds, which had been bequeathed to the Allentown Hospital, were sold and the proceeds placed to Mr. Ryle's credit in his bank. The executors decided that the money belonged to Mrs. Hunsberger, but she has arranged that it shall go to the hospital in accordance with Mr. Ryle's intention.

Miss A. H. Campbell, for the last forty years superintendent of the Faith Home for Incurables, 546 Park Boulevard, Brooklyn, N. Y., has been compelled by ill health to relinquish the active management of the institution. Miss Campbell's influence will still be felt in the institution, however, since she has been given an honorary position on the board of managers. The home is interdenominational, and, having no age limit for patients, is said to be the only institution of its kind in the city.

The MODERN HOSPITAL

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Contributors, subscribers, and readers will find important information on advertising page 34.

Another Hospital in Politics

Another splendid public hospital has been made to suffer by the injection of politics. This time it is the thousand-bed State Charity Hospital of New Orleans. The Charity Hospital is conducted under the auspices of the state of Louisiana and by a board of seven trustees appointed by the governor. Three years ago the then board appointed Dr. Charles D. Wilkins, on the recommendation of Dr. S. S. Goldwater, as superintendent of the hospital. The hospital then needed reorganizing and some splendid work has been done during these three years, and the hospital became one of the best in the country, working in its scientific departments in affiliation with Tulane University and for the best interests of the sick poor of the state of Louisiana, and especially of New Orleans. Dr. Wilkins reorganized its finances, its staff, and its methods of procedure. The medical profession and those who knew what good hospital service is have spoken in the very highest praise of Dr. Wilkins' administration.

The other day Governor Pleasant, of the state of Louisiana, who has the appointment of the board of trustees, appointed four new trustees, who visited the hospital for about half an hour and who then held a meeting, at which the governor presided. Over the violent protest of some of the old members, who had worked hard with Dr. Wilkins to create a good hospital, the governor and his appointees dismissed Dr. Wilkins and named a new superintendent in the person of Dr. S. W. Stafford, a New Orleans surgeon, who, the New Orleans newspapers claim, had had no managerial experience whatever, and the only excuse for his appointment lay in the fact that he had served as intern in Charity Hospital under a former administration.

For three years Dr. Wilkins, an able hospital administrator, trained to the service over a long period of years and in exacting positions, has worked day and night, and has employed every device of which he had knowledge to bring Charity Hospital up to the foremost rank of modern institutions, and now, without an hour's warning, he is dismissed.

Without distinction of party, the New Orleans newspapers are up in arms; prominent citizens call the action of the governor outrageous—and outrageous it certainly is, for, however good a surgeon Dr. Stafford may be, and however urgent the governor's desire for a change may have been, the giving of the place to an untrained man is reprehensible, to say the least.

How long are the people of this country going to permit the most sacred institutions in their communities to be footballs of petty politics, subject to the caprices of those who happen to be in brief authority!

The Best Part of the Program

During the past month so many inquiries have come to the editorial office of THE MODERN HOSPITAL concerning details of the plans for the Philadelphia meeting that it is very safe to make the prediction now that the Philadelphia meeting is to be one of the largest, if not the very largest, in attendance that the association has ever had.

So much is quite good, but it is not sufficient, and those who intend to be present at the convention should make up their minds before going that they must participate in the proceedings, take part in the discussions, form one individual of the many groups that will be brought together for pleasant times of all sorts.

It has been said by some wiser heads in the hospital world that the best things they have received from the conventions came not from public addresses on the floor, but were the result of little semi-private group talks; a luncheon in the grill, or a sandwich with some light drink after the day's work was over. It is impossible for four or five hospital people to get together and indulge in conversation of any sort without there being dis-

seminated some immensely profitable ideas. It is these little groupings that ought to be encouraged at Philadelphia. Some special hospitals have special problems, and the superintendents of such institutions, if they will get together, can help each other immensely by telling, each one his own story, of some problem and how he mastered in.

For several years now it has been common practice in the conventions of the association to let the members enjoy themselves as they saw fit, and no pretense has been made of providing entertainment of any kind. A good many complaints have arisen on that score, and many members, especially among the women, have wanted some social features injected into the convention period. At the San Francisco meeting this apparent inclination gave rise to a resolution demanding some social features in the Philadelphia program. Philadelphia seems to have gone farther than could have been expected, and a program full of good things has been provided, not only in, but outside, the convention hall; and if those who attend the convention do not enjoy themselves and profit greatly both mentally and physically, it will be their own fault.

The materials will certainly be at hand for everybody to have a good time and to take back home a vast accumulation of invaluable information.

A Logical Annual Report

During the past two or three years we have been frequently importuned to define what an annual report should be, and we have taken frequent opportunity to deplore the general trend, in annual reports, toward unreadableness and a statistical preponderance that made of them something to be shunned rather than sought after and enjoyed.

These thoughts are apropos of the receipt in the editorial office of THE MODERN HOSPITAL of the first annual report of the Winifred Masterson Burke Relief Foundation, of White Plains, N. Y.

Dr. Frederic Brush, superintendent of that institution, is, first of all, a poet; he has originality, initiative, and an immense fund of imagination. Those who have not seen Dr. Brush's first annual report should write to him and get a copy, and read it. We promise that they will not only enjoy it, but that they will greatly profit from its study.

The statistical part of this report is confined to some fractional pages under the head of each of the four branches of the institution. There are a few rules for patients published; a small amount of space is given to reproduction of information for those who expect to send convalescents to the institution; a page or two of forms, such as application blanks, return and "follow-up" cards; there is a ground plan of the Foundation area at White Plains, excellent photographs of the group of buildings, individual buildings, and a number of detail photographs; there are also photographs from the boys' branch and from the branch for colored patients. But the body of the report is a story, interestingly told, in good literary style and interest compelling from start to finish. It begins with the introduction of the late John Masterson Burke, a nonagenarian, who gave millions of his money during his lifetime to found the convalescent home as a memorial to his mother, and other millions at his death.

The story of the building operations and the organization of the home is told, and a most interesting account of Dr. Brush's conception of the convalescent field, the past, the present—and a prophetic vision of the future.

Nothing seems to have been done in a cut-and-dried way in the conception of the Foundation or the execution of the trust confided to the board of trustees by the grand old founder.

Dr. Brush tells of the admission of patients, which is a unique function, the preference given to certain sorts of cases—and why. He tells of the cooperation of the hospitals of New York city and of the beautiful team-work that is done to further the interests of the patients to be sent to the institution; he tells of the transportation and the interesting experiments that were made before the present excellent omnibus service was introduced.

The best part of the story in the book concerns the psychology, "the spirit of the Burke Foundation," and he tells of the gradual permeation of this spirit into the hearts and minds and souls of those who go there to get well. He tells of the recreations, the occupations of patients, and gives the reasons and methods employed by which certain patients are given certain things to do at certain times, and how other patients are kept away from those things and given something else—and why.

It is most interesting to read Dr. Brush's story of the convalescence of his heart cases and the rehabilitation of patients who have had long recurring heart attacks, and in this connection his story of the difference between youth and age in the care of these cases opens up some new fields of thought for those who want to think. He writes about the other classes of cases that the home is glad to receive and what it does for them; his handling of chronic diseases, the subnormal types and how they are brought up from the stage of social liability to become community assets.

In short, Dr. Brush has given us what we con-

ceive to be almost an ideal institution report, and we are so enthusiastic about it that we heartily wish as many as can of the hospital people of the country could get it and read it, and study it, and, unless they can better it when they come next to writing their own annual reports, that they would follow it.

Grading of Nurses

As THE MODERN HOSPITAL goes to press, a preliminary copy of the report of the standing committee on grading and classification of nurses reaches the editorial office, and elsewhere in this issue we have undertaken to give a synopsis of this report, more especially for the benefit of those who will not be able to attend the Philadelphia convention.

We urge hospital and training school heads to read our brief synopsis, and to get a copy of the report and to study it. It is really a very important document on one of the most important topics that interests the hospital field today.

Those who have followed the proceedings of the American Hospital Association will know that this committee was appointed in spite of much opposition, that its personnel was changed or added to, and that it has been sent back to further study its problem for the past three or four years.

During the existence of the committee nursing problems have quite radically changed in some respects, and we are a good deal further along in the settlement of some of our problems than we were when this committee was first appointed. A report of the nature that the committee has now made would have been utterly preposterous four years ago from the standpoint of acquiescence of the association, and it may be fairly doubted whether the nursing profession will quite fall in even now with a good many proposals of the committee; but nevertheless points that the committee were given to study and report on four or five years ago have developed amazingly and to such an extent that many of those who were actually opposed even to the appointment of a committee for the purpose will now be more than glad to meet the committee half way and even to indorse nearly all the proposals that it now makes.

Originally those members who were insistent on the appointment of a special body to study this subject believed in the creation of three distinct classes of nurses, one of which should be made up of women trained to the point of being only a grade above the ordinary domestic, and whose chief duty would be as mother's helper in the home in time of sickness. The committee has now seen fit to shift its position along more logical lines, does not insist on such women being called nurses, or being employed for actual trained nursing purposes, and nowhere in the report is it insisted that these women shall be in any way identified with the nursing body, but, on the contrary, states that it be a distinct class, with none of the privileges and none of the credentials of trained nursing.

This report ought to be welcome in the Philadelphia convention, and it should lead up to further studies on some of the problems recognized by the standing committee as still unfinished and unsolved.

Hotel Dieu de Saint Joseph, Montreal

To Jeanne Mance must be given the glory and honor of founding the Hotel Dieu Hospital of Montreal, sketch of which appears on the cover page of this issue of THE MODERN HOSPITAL, and to Madame de Bullion, whose princely munificence and encouragement made possible the fulfillment of the ambitions of the young foundress.

Born in 1606 of an illustrious family in Champagne, France, Jeanne Mance shortly became possessed of the idea of ministering to the sick and wounded in distant Canada, then known as New France, and in 1641 she embarked with Père Laplace, twelve male colonists, and a solitary woman companion, arriving that autumn at Quebec, where she wintered. In company with Paul de Maisonneuve, she reached Montreal May 18, 1642, and established in her humble habitation, on the site of the present St. Paul street, the nucleus of the first hospital on the island of Montreal, where, with her own unaided hands, she attended the sick and wounded settlers and Indians. In 1644 Jeanne Mance moved to larger quarters, a change representing an outlay of 6,000 francs, provided by her patroness, Madame de Bullion. This place stood for fifty years, until fire completely razed the buildings.

For seventeen years Jeanne continued unaided in her chosen field until in October, 1659, there arrived in Montreal three hospital sisters of the order of St. Joseph, a religious community founded at La Flèche, France, for the purpose of providing hospital facilities in Ville Marie (now Montreal). These pioneer sisters were Judith Moreau de Brésoles, Catherine Macé, and Marie Maillet. Montreal at that time consisted of some forty houses and 260 settlers.

In 1673 death claimed this noble, self-sacrificing worker, and her body was placed under the church connected with the hospital, being completely cremated when these buildings were burned to the ground in 1695. Subsequent fires in 1721 and 1734 wiped out of existence the buildings occupied by the reconstructed hospital. The

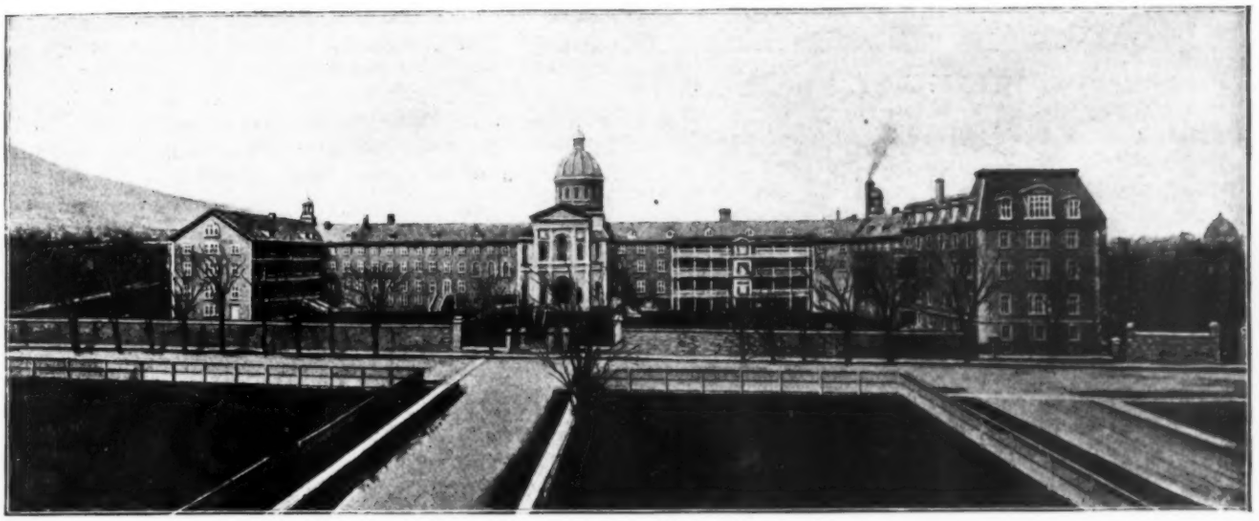

Fig. 1. Hotel Dieu de St. Joseph, Montreal.

present-day institution at the foot of Mount Royal, facing on Pine avenue, was erected in 1861, being transferred uptown from its original site on St. Paul street. From the magnificence of its location and the character of the buildings, it is a just

Fig. 2. Jeanne Mance monument, Montreal.

cause of civic pride to residents of Canada's metropolis.

Through the initiative of Archbishop Paul Bruchesi and the generosity of citizens of Montreal, there was unveiled on September 2, 1909, a monument to Jeanne Mance, commemorating the two hundred and fiftieth anniversary of the arrival of the three Sisters of St. Joseph. Records kept by the sisters from 1760 to 1916 show some 235,000 cases treated at the Hotel Dieu.

This sketch would be incomplete were not mention made of Fanny Allen and her association with the Hotel Dieu. This genteel daughter of General Ethan Allen, whose name is so intimately connected with the early history of the United States, entered the sisterhood of the Hospitalières de St. Joseph in 1808 at Hotel Dieu, Montreal, she having the honor of being the first woman born in the United States to enter this community. Her name is perpetuated by the Fanny Allen Hospital, near Burlington, Vt., on the site of the Allen homestead. In conclusion, well may it be repeated that the history of the Hotel Dieu is the history of Montreal. War, famine, and pestilence have they both successfully passed through. Nothing has dampened the ardor of the sisters of the Hotel Dieu, and today their work stands out effulgent in the success of their undertakings. To them Canada in general, and Montreal in particular, is deeply indebted for the continuous and continued exhibition of unselfishness, charity, and progressiveness.

WILLIAM A. L. STYLES, M. D.

The Hunterian Laboratory, a five-story building erected for the Johns Hopkins Hospital, Baltimore, will be ready for use when the medical school opens in October. The new laboratory was made possible by a gift from Andrew Carnegie some years ago. The building is of reddish brick, with stone trimmings, and harmonizes with the other structures of the Johns Hopkins group. On the first floor will be the exhibition and class rooms of the department of art as applied to medicine, and the entire second floor will be taken up with the laboratories. The third floor is to be devoted to medicine and pediatrics, and the fourth to experimental pathology. The top floor will be used entirely for the harboring of animals to be dissected in the interest of science.

HOSPITAL, MEDICAL, AND SPECIAL MEETINGS

Address of President Winford H. Smith, M. D.,[1]

President of the American Hospital Association.

Members of the American Hospital Association, ladies and gentlemen: Following the time-honored custom which calls for an address from your president, I have endeavored to express to you in a rambling sort of way some of the thoughts which I entertain concerning this association and concerning hospital administration.

The criticism has been frequently made that this association is not accomplishing all that it should, that the membership should be more representative, and that something radical needs to be done to develop the association and to give it new life. I dare say the association could accomplish more, but is not that true of any organization? And is it not indicative of a proper state of mind, that we are not fully satisfied? However that may be, it is my profound conviction that the American Hospital Association, by its annual meetings and the papers and the discussions both in and out of session, by the enduring friendships formed at the meetings, has had a pronounced effect on the development of the hospital movement in America. I do not share the view that, because we have not a larger membership, the association has failed. Indeed, I can well remember that much help and much stimulation was obtainable when the membership was even smaller than it is now.

But let us consider for a moment the question of membership. Undoubtedly we should have more members. A few years ago the association was enlarged to take in trustees, members of medical and surgical staffs, and superintendents of nurses. Many of these have availed themselves of the privilege, but in reality only a small percentage of those who are eligible. To me this is not surprising or unexpected. Trustees are for the most part busy men of affairs, and, while they would no doubt enjoy and profit by attendance on these meetings, I think we can hardly expect them to attend, except those local to the convention city. Physicians and surgeons are already members of so many clinical societies that it is almost impossible for them to attend the meetings of those societies to which they belong; and, furthermore, it is the clinical side of hospital work in which they are primarily interested. Superintendents of nurses have their own association with a membership of some 30,000, and, with section meetings and programs quite as interesting to them as anything which we could offer, it is not surprising that they have not joined our association in large numbers. We could hardly expect it. In my opinion, so long as we maintain our present organization, we must expect our membership to be made up principally of those who are engaged in administrative work—namely, the executive officers.

Why, then, have we not more of the hospital superintendents on our list? There are several reasons. Undoubtedly there are many who have not yet seen the advantages of association with others engaged in similar work, and who are content to revolve in their own little circles. Many others, if they attend these meetings, must do so at their own expense and during the time allotted to them for vacation. As to those who are so shortsighted as to have no desire to get new ideas and the point of view of others, I have nothing to say; but for the many who are deterred from joining this association and attending its meetings on account of the expense and time involved, I feel great sympathy. We must try to help them. This year the chairman of the Executive Committee, Dr. Washburn, sent out approximately 5,000 letters addressed to boards of trustees, urging that their hospital superintendents be sent to this meeting, and setting forth the advantages of membership in this association. I trust those letters may be fruitful. However, we have no cause to despair because the association does not grow more rapidly. If our meetings are really beneficial and stimulating to the thousand or more members which we have, then a great amount of good is being accomplished for the hospitals of America.

On the other hand, it is possible that we should consider a change, and I have two suggestions to offer. Might it not be more beneficial in the end if there were formed an eastern, a western, a central, a southern, and a Canadian hospital association, each meeting every two years in its own territory? Then let the American Hospital Association meet on the alternate years, and make the membership in the larger association dependent on membership in the smaller bodies. The smaller associations might interest many whom we do not now reach, and, by thus stimulating their interest, result in a considerable increase in the membership of the larger organization. I will not dwell longer on this, for the Committee on the Development of the Association may have something to report along this line.

There is another line of thought which has been much in my mind. This is the era of preventive medicine. Public health work is ever increasing and its scope broadening, and hospitals are each year assuming a more important part in matters relating to the health of the community. Has the time come for the formation of a large American public health association, which would embrace many and varied activities now represented by independent organizations? Would it be possible to enlist in such a movement such associations, for example, as the American Hospital Association, the present American Public Health Association, the National Association for the Study and Prevention of Tuberculosis, the American Sanatorium Association, the American School Hygiene Association, the Canadian Public Health Association, and the National League for Nursing Education? Each association could preserve its identity as a section of the larger organization, and programs could be arranged to represent the work of each section. Would not the opportunity thus afforded of following the work of the different sections have a broadening educational influence on all members? Would it not possibly give impetus to the public health movement? I offer these simply as suggestions for your consideration.

In preparing the program this year, I have been impressed with the fact that we have a large number of

[1]This issue of THE MODERN HOSPITAL will be in the mails during the meeting of the American Hospital Association at Philadelphia, and copies will undoubtedly be at the meeting on the last day, September 29. We have the privilege of publishing in this number the president's address and one or two other addresses that will be made as a part of the program. In subsequent numbers other papers will be published, and in the November issue will appear the complete story of the convention.

committees which, according to the by-laws, are expected to report annually. It is my opinion that, notwithstanding the fact that these reports are invariably interesting, it would be better to eliminate some of them and leave the selection of subjects to be presented to the discretion of the president. With this idea in view, I recommend to you that the Committee on Hospital Progress, which includes a Committee on Efficiency, Finances, and Economics, a Committee on Medical Organization and Education, a Committee on the Training of Nurses, a Committee on Out-patient Work, and a Committee on Hospital Accounting, be discontinued, with the possible exception of the Committee on Out-patient Work, but also including the Committee on Legislation and the Committee on the Development of the Association. These committees could be appointed temporarily at any time when the association might see fit. As it is now, the number of committee reports interferes with the preparation of a well-balanced program. An amendment to the by-laws is necessary if this recommendation meets with your approval.

Dr. Howell, in his presidential address, recommended the formation of a Council or House of Delegates for the transaction of business. The need of this becomes more apparent each year. Too much time is occupied in the transaction of business, which could be employed to better advantage for the majority of the members. This matter deserves your consideration.

I wish now to speak briefly of some of the defects in present hospital policy and organization and of some of the problems of the future. The growth of the hospital movement has been phenomenal, and, as might be expected, such rapid growth has developed many weaknesses. It is generally recognized that the modern hospital is a valuable asset to the community. Modern medicine and surgery demand hospital facilities for the successful treatment of many conditions. In every hospital there is developed each year a higher standard, necessitating more and better nursing, more refined methods of diagnosis, more extensive equipment, and a larger medical and surgical service. The function of the hospital is too important to be taken lightly, and it is to be regretted that so many hospitals are established as the result of the ill-advised and uncontrolled enthusiasm of groups of individuals who take a too optimistic view of the financial resources of the institution, or who fail to take that point into consideration at all. The result is too frequently a struggling institution, endowed only with the confidence of the public, which it ill deserves. There should be some machinery for the regulating of such enthusiasm. Hospitals without visible means of support should not be allowed to spring up indiscriminately. That many institutions starting from such beginnings have achieved conspicuous success is true, but the principle is wrong, and the practice unsuccessful as applied to the majority. Too frequently such an institution means another unnecessary burden on the community, diverting funds from other more worthy hospitals, entirely adequate to the community needs.

Another result of this unregulated, mushroomlike growth of hospitals has been the continued low standards of service, due in large measure to the low salaries and wages paid. The salaries paid, from the chief executive down, have been and still are altogether too low in the majority of hospitals, and are not at all comparable to the remuneration for less responsible duties in other lines of work. It is difficult to understand how the trustees of hospitals, usually men of keen business ability, can continue to practice a business policy in the conduct of their hospitals which they would not countenance in private business. They continue to intrust the business to poorly prepared, untrained executives because they are unwilling to pay for ability, overlooking the fact that a cheap man is usually the most expensive in the end, and the same principle applies to subordinates and employees.

It is not surprising, therefore, that the work is often below par, and that the changes in personnel are so frequent that, but for a few faithful employees, the institutions could not operate. It is also not surprising that the standards of decorum and morals are often so low as to amount to scandal. What else could be expected? For example, it is a well-known fact that until comparatively recently a large percentage of the employees in the municipal hospitals of New York city came from the workhouse on Blackwell's Island.

While on this subject of morals, I wish to say a word more. In discussing recently the organization of a new hospital (which is the hobby of one man) with one of the officials, the latter remarked that Mr. So-and-so did not want the doctors, nurses, and employees to live in the hospital because of the prevalence of immorality under such conditions. We know that such a statement is not true, but the condition does happen just often enough to lend color to such statements. Dr. Washburn, in his presidential address, touched on this point, saying: "Well-authenticated report comes to me that in some hospitals in certain sections of the country the standards of deportment, decorum, and in some instances even decency, are low."

Most of us take hospital work seriously. We believe it to be a serious and responsible undertaking. I am sure you will agree with me that no man or woman of low moral standards has any business in a hospital, particularly in a position of trust and responsibility. It should be our concern as members of this association to see that such persons are never admitted to membership, for the sake not only of the dignity of this association, but of hospitals generally. I may seem to lay undue emphasis on this subject, but it requires only a few isolated instances to cast discredit on the entire hospital system.

Taken by small and large, hospital organization is slowly improving, although the old rotating service still prevails, and the appointments continue to be made for other sources than real merit. I am aware that the problem, particularly in small communities, is a difficult one. The so-called leading physicians and surgeons seem to be necessary to the existence of the hospital. Social prestige is often a potent factor, and the controlling of hospital appointments by a social clique is an evil.

The continuous service is fairly well recognized as much more beneficial to the patients, and much more stable and economical as a working organization. The readjustment along lines recognized to be for the best interest of the patient, which is of course the prime consideration, should take place much more rapidly than at present, and should have the backing of this body. Appointments to staff positions should be guarded more carefully, and merit alone should be the determining factor. A long service as an assistant, or in some subordinate position, should not mean promotion unless that service has been of such merit as to warrant it. In hospital work the best man available, regardless of previous service in that particular hospital, is the man for the place.

While it is true that it costs more each year to operate hospitals, and we often wonder where the money is to come from, nevertheless it must be recognized that modern medicine and surgery demand more thorough methods and more elaborate equipment, and, if the work is to be prop-

erly done, these needs must be supplied. In too many hospitals we find inadequate laboratory facilities and incompetent laboratory workers. The x-ray laboratory, the clinical and pathological laboratories, properly equipped and in the hands of competent workers, are essential to even thorough routine work. More attention needs to be given to these points.

I wish to emphasize the fact that here in American hospitals too little attention has been paid to the importance of autopsy findings. Furthermore, I think the tendency of hospital administrators has been to surround the autopsy privilege with so much red tape and legal procedure as to be somewhat responsible for the small percentage of autopsies in our institutions; that, and failure to provide proper machinery for obtaining such permission, leaving this to inexperienced interns, who are impatient, and sometimes brusque and threatening in their attitude, is a wrong policy. We are just beginning to realize that investigation and education is a legitimate function of the hospital, quite apart from the beneficial effect that it has on the patients under immediate treatment.

Another procedure which has been faulty, and still is in too many hospitals, is the manner in which anesthesia is handled. In the main, anesthesia is administered by those who are inexperienced and often incompetent. The giving of an anesthetic is now recognized as an important, and it may be a dangerous, procedure. To continue to allow this to be done by those who are inexperienced is reprehensible. We should no more allow incompetent anesthetists than we should allow incompetent surgeons to operate.

The hospitals have rendered a great service to humanity, but in the light of our recent knowledge we must acknowledge that they have been conducted more as repair shops in comparison to what is to be the development of the future. We need to study and to understand the broader relationship of the hospital to the community. That we have begun to appreciate this broader usefulness is evidenced by the inauguration of social service work, indicating that we are no longer content to ignore the relationship of the individual to his family, to previous environment, to the community, and to post-hospital environment and opportunities. The pay clinic for people of moderate means, such as has been started at the Massachusetts General Hospital, is also an indication of the growing appreciation of the larger field and the broader relationship of the hospital to the community. In the great public health movement the hospital, with its opportunities for intensive work, with its trained clinicians and investigators, and its many points of contact with the community, occupies an important, indeed a strategic, position. As administrators we must be something more than good stewards—we must be able to interpret correctly the opportunities open to us for a larger usefulness, for a greater public service.

As an association we should try to establish better standards of hospital organization. One of the fundamental weaknesses in our hospitals is the lack of appreciation of the proper relationships between the trustees and the superintendent, and between the superintendent and the staff. Hardly a day passes that I do not receive letters asking me for advice on this subject, and usually they are from harassed superintendents. There should be no such difficulty. It is a well-recognized business principle that any large organization must have a single executive head. In a hospital the superintendent is that executive head, the executive officer of the trustees, and the authorized means of communication between the trustees and all departments. As such he should have the confidence and backing of the trustees. They should hold him responsible for the management of the institution and should clothe him with all necessary authority. He should be subject to their control, but not to needless interference. He should in reality be an adviser to the board, and should participate in its deliberations, for he is the one man in the whole organization who should be best informed on all details pertaining to the administration of the hospital.

The staff has its function—the care of the patients—but that is not administration. There should not be antagonism between the staff and the superintendent. The staff members should understand that he is not trying to hamper them individually or collectively, but that, because of his impartial position, and because of his broader knowledge of affairs in all departments and of the resources available, he is trying to coordinate individual efforts to form a harmonious and efficient machine. If this were understood, and practiced more generally, the efficiency of our hospitals would be markedly increased. With the many splendid examples of hospital organization available, there is scarcely any excuse for the continued haphazard, friction-producing methods so generally practiced.

I have already referred to the evils of unrestricted hospital growth, but there is another phase which should be mentioned—namely, the need of more attention to the location of hospitals with some reference to community needs. In the larger cities we not infrequently see hospitals of the same type grouped together in certain sections, while other sections of the city are entirely without hospital facilities. It would be just as sensible if the same policy were followed in locating the public schools. The difficulty lies in the fact that the majority of hospitals are private corporations, and there is no one agency, as in the school system, to pass on the question of location. There should be some such agency to correlate hospital development with community needs. This point has been well brought out by Mr. Michael Davis in his article on Health Centers, in which he advocates a hospital, a dispensary, and an open-air school for each 100,000 of the population.

Another point on which there should be more cooperation between the hospitals and the city authorities is the remuneration of the hospitals by the city for the work done. The city authorities should recognize the extent to which the corporate institutions are shouldering the burden of caring for the sick poor, and should be prepared to recompense those institutions at a rate somewhat approaching the actual cost of such service and not by the arbitrary and senseless standards which now prevail, representing, broadly speaking, not more than one-half or one-third of the actual cost.

As an association we should stand firmly for higher standards in the administration of municipal hospitals, and as unalterably opposed to political domination of those institutions. In this country the endowed institutions have been the leaders in hospital development, while, with few exceptions, the municipal hospitals have suffered from the political spoils system, with the result that the municipal hospitals of some of the larger cities, which should have been examples of excellence, have in reality been a disgrace to their respective communities. In this connection I need only mention Chicago, New York, Cincinnati, Baltimore, and Philadelphia. We have had a few conspicuous examples of excellence, but they have been all too few, and there is no reason whatever why our municipal institutions, once freed from the pernicious influence of politics,

could not be models of excellence, contributing largely to medical education and to the increase of medical knowledge, while at the same time exercising a much more potent influence in maintaining the health of the community. If there is any institution which should be entirely divorced from the evils of political domination, it should be the hospitals, which are responsible for the care of the sick poor. This association should stand firmly back of that principle.

In the cities we have been building hospitals larger and larger, until it is no uncommon thing to find hospitals located in the center of the city which can accommodate from 1,000 to 2,000 patients. It seems to me that we should be planning differently for the future. A large central city plant is expensive to build and expensive to operate. We know that, after the acute stages of illness, both medical and surgical patients would do quite as well in less elaborate surroundings; indeed, we know that they could be just as well cared for at less expense, and would be infinitely happier, if they could be moved into the country, to a convalescent hospital. It might not be overstating the fact to say that under such conditions the period of convalescence could be shortened and the end result bettered. The city plant should, of course, be developed to a point of general usefulness as a general hospital, but beyond that point I believe we should look on the country branch as the best means of expansion, rather than to continue to expand into larger and larger city plants. Furthermore, the lack of facilities for placing patients who need continued convalescent care is a problem confronting hospitals everywhere.

If the hospital system is to be thoroughly efficient, more attention must be paid to the physically handicapped, whom we are constantly discharging from our hospitals to lead useless lives, and to return again and again because there is at present no comprehensive plan for placing these individuals in proper environment and for fitting them to lead fairly normal and useful lives. We have some excellent examples both of the need and of the possibilities of such service in Dr. Hall's pottery at Marblehead, in the workshops of the Massachusetts General Hospital and of the Burke Foundation, and many other examples. It is my conviction, however, that this is a larger problem, and is not a question to be solved by individual hospitals for their own patients, because that means needless reduplication—rather, it is a problem of the community. Just as a hospital is a well organized, well equipped unit for doing a specific work, so there is needed in every community of considerable size a well-organized, well-equipped unit or organization for meeting the problem of readjustment—of reeducation of those who are physically handicapped—thereby saving many from the useless, dependent, aimless existence to which they are now condemned on account of the lack of some such system. We should be able to learn much from the manner in which this problem is met in England, France, and Germany after the war. On a smaller scale the same problem has been and will continue to be with us, and it must be solved.

Hospitals were originally designed for the care of the indigent alone, and were looked on as the place of last resort. With the improved and refined methods of diagnosis and treatment, the more elaborate technic of both medicine and surgery, the hospital is now recognized as the place of first resort for those who are seriously ill. We must, therefore, realize that in the hospital of the future, if it is to be complete and prepared for its broadest usefulness, more attention must be paid to furnishing accommodations for all classes. It is true that American hospitals have been developing along these lines, but is should be emphasized in its importance, else those institutions which provide only for the poor will be in the position of discriminating against the man who can pay, and we shall find the private hospital and the nursing home flourishing as they do elsewhere. Without unduly criticising these institutions, it must be recognized that they cannot afford the advantages of the large general hospital, with its complete organization and extensive equipment. Sir William Osler has said that one of the great weaknesses of English hospitals is the lack of proper provision by general hospitals for the well-to-do as well as for the poor.

Furthermore, one of the greatest needs today is a hospital service for the large middle class, if I may use that term—those who, while unable to afford the usual expensive private service, and are too proud to accept the charity and the publicity of the open ward, are willing and able to pay for a service somewhere between these extremes. How is this to be provided? It is manifestly not a proper tax on the funds given for the poor, and it cannot be considered the duty of the city or the state to provide such a service, the only reason for which is the pride of the individual, although it is a pride to be encouraged. This service must be so regulated as to be self-supporting, or else it must be provided for by special endowment. This is an important question, and we are expected to answer it.

Another problem which I hesitate to mention, but which is so important that it cannot be passed by, is the matter of the training of nurses. We must all recognize that the trained nurse is today called on to play an ever-increasing part in our civic and social life, and that, as a factor in all public health work, her importance can hardly be overestimated. My only plea is for more general recognition on the part of hospitals that the training school for nurses can no longer be regarded as simply a means to an end in the business of the hospital, but that the hospital has a distinct duty to perform in the education of nurses, that it is a part of the educational function of the hospital, and represents a great public service.

In a recent address to the nurses of the Johns Hopkins Hospital, Dr. William H. Welch expressed himself in words of great import, saying in part:

"The training school of the hospital supplies the needs of the hospital in the most efficient and economical way possible, but the query may be raised as to whether the complete meeting of that demand of the hospital is in every way commensurate with the meeting of the full needs of the training schools. I do not for a moment suggest that the training school shall not meet the needs of the hospital. That, of course, is the best part of the training of the nurse, but perhaps the hospitals should look on it as not merely an arrangement by which the nursing needs of the hospital can be supplied, but as an opportunity to train women for a very important profession.

"I think the time has come to make a very urgent plea for the adequate endowment, on the educational side, of the training schoo' for nurses, for adequate physical equipment and an adequate educational staff, and that the nurse shall have the requisite time, not only for studying and attending lectures, but for reading; because practical training in nursing, as practical training in everything else, is, after all, one-sided, and it rests on certain fundamental principles, and these principles must be taught, just the same as in the training for any other technical profession. One is deeply handicapped without the knowledge of the fundamental principles which underlie the practice of any profession.

"I should like to see this idea of the need of recognizing the profession of nursing on the educational side as a worthy object of philanthropic endowment presented side by side with the needs of medical education.

"I have already emphasized my feeling for trained nursing as a profession, and as a profession distinct from that of the practitioner of medicine. Intertwined with it, of course, but I am sure it is important for the doctor to realize that there are things which the trained

nurse knows better, and he should recognize that the nurse is an expert in a profession which, while intertwined with that of medicine, is distinct from it. It is not to be thought of as simply subservient to the profession of the practice of medicine. It stands by its side."

As an association we have had this subject under consideration in one form or another for several years. Your special committee reports this year; it has gone deeply into the subject, and will present to you a carefully prepared report which merits your earnest consideration.

The out-patient department, or dispensary, has received much attention in recent years, and it deserves and is bound to receive more in the future. It is a much more important phase of hospital work than has been generally understood. We have looked on it too often as a mere side issue, where a place could be found for those for whom nothing else was available. We have heard much about dispensary abuse, meaning the abuse of the privilege by unworthy patients, but we have heard too little about the abuse of the patient by the dispensary, meaning by that the waste of the patient's time and careless and superficial advice and treatment. This service is of sufficient importance to demand the highest grade of work; else it should be discontinued, for our hospitals in the future will be judged quite as much by the grade of service rendered in this department as in the wards.

Here, again, there is urgent need for provision for that great class of self-respecting, self-supporting individuals who are ready and willing to pay for expert service if it is placed within their means. But in this day of specialization, when to get a competent opinion means to pass through the hands of three or four specialists, they are unable to meet the expense. To satisfy this need, there should be pay clinics for these people of moderate means, entirely distinct and separate from the so-called free dispensary, where a competent opinion can be had from as many specialists as may be necessary, at a moderate, inclusive fee. The Massachusetts General Hospital, so often a pioneer, has again led the way in this respect, and the experiment should be carefully noted by us all.

A hospital exists to serve the public, and, if our hospitals are to play their full part, more attention must be paid to the establishment of clinics for venereal diseases. This applies both to the in- and out-patient service. I need not do more than call attention to the fact that the hospital has a great opportunity in such clinics for broader service, not only to those who suffer from these diseases, but to the public at large, in preventing the spread of venereal disease by therapeutics and by education.

What should be the attitude of the hospital toward the illegitimate child and its mother? Dr. George Walker, chairman of the so-called Vice Commission in Maryland, called to my attention the fact that not only were physicians willing to sanction and often to arrange for the prompt separation of the illegitimate child from its mother, immediately after birth, and to place it in a foundling asylum, but that hospitals quite frequently were willing parties to such an arrangement, some even providing a woman who had the specific duty of making such arrangements. I think we may assume that Maryland is not alone in this. Dr. Walker also points out that the mortality in foundling asylums is generally high—in many as high as 90 percent. In consideration of this fact and of the moral principle involved, I believe that no hospital should countenance the separation of the child and its mother for such purposes. We all know that many times, when the mother has no desire to keep the child at first, if made to do so for a short time, she would not part with it for any consideration. I believe this practice, which I have called to your attention, should be frowned on by this association. In my opinion it should be made an offense under the law, as it is now in Maryland.

We have now accustomed ourselves, or are doing so, to the employers' liability acts, as they affect our hospitals. Health insurance and the effect of the same on hospitals is another problem which we shall be forced to consider. Health insurance is doubtless in the minds of most of us a thing to be desired. In any event, it will surely be with us before many years. The American Association for Labor Legislation is actively engaged in promoting this movement, and I believe this association should appoint a committee at this session to study the subject to the end that, as a body, we may be better informed on the question, and, if that should be our judgment, to cooperate in all efforts to bring it to pass.

In conclusion I desire to thank the association for the honor which it has paid me in selecting me as its president. It is not an honor which one seeks, but as an expression of your confidence and trust it is deeply appreciated. I have tried to prepare for you an interesting program, and I sincerely hope that this, the eighteenth conference of the American Hospital Association, may be truly helpful and entirely harmonious.

I wish also to thank the other officers of the association and the various committees for their loyal and wholehearted support and cooperation. If the meeting shall prove a successful and profitable one, as I am sure it will, the credit will be due to them, and in large measure to the local committee.

I thank you for your patience and your consideration.

Disinfection and Other Practicable Methods of Preventing the Spread of Infection in Hospitals[1]

BY ROBERT J. WILSON, M. D.,
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Before beginning to consider the methods practicable for preventing spread of infection, let us consider the conditions that influence it.

There are two factors indispensable to infection—the susceptible individual and the specific organism that causes any particular kind of disease. It is only under favorable conditions for each factor that infection takes place. The candidate for infection must be susceptible, and I take it that there are degrees of susceptibility depending on the amount of antibody or resisting material of whatever kind there may be in his of her body. Some may take issue with the statement that there are degrees of immunity. This question may be met by showing that the actual amount of diphtheria antitoxin in the circulating blood of human beings has been frequently determined and is found to vary considerably. It is therefore fair to assume that the same variableness of immune substance may hold for scarlet fever and other highly communicable diseases. Those who are intimately associated with contagious diseases know how much more prone to contract disease are those who are in a weak and debilitated condition or convalescent from another infection than the strong and robust. This is readily understood when it is known that antibodies are rapidly used up in combating an infection, and a certain time must be allowed for their reappearance in the blood after an acute infection. This also means that convalescents in hospitals are more susceptible, through loss of antibodies, than are healthy individuals when exposed to infection under conditions otherwise similar. The

[1]Read before eighteenth annual conference of the American Hospital Association, Philadelphia, September 26-29, 1916.

other factor of the infecting organism's ability to produce infection in a susceptible person will depend on its virulence—the number of organisms that reach the susceptible, their ability to withstand exposure to sunlight, drying, and other deleterious conditions that surround them before coming in contact with the susceptible.

The term practicable is used in this paper "because it is sufficient to denominate the way practicable, for we esteem that to be such which in the trial oftener succeeds than misses." Disinfection, to the mind of the writer, is only indicated in those cases that have, after termination, left in the premises infectious organisms capable of infecting susceptible individuals. In other words, disinfection is indicated only in cases of known infectious areas. Practically, we can consider such to be those where termination of disease in the premises has been by death or removal to other quarters, and where it is desired to use the vacated area immediately. Air dilution, drying, cleaning operations, all rapidly combine to rid the infected area of living organisms, so that the use of disinfectants where such forces have been at work is like locking a stable after the horse has been stolen.

In hospitals where infection of a virulent type breaks out in a ward or room that it is necessary to use immediately after the removal of the infectious disease, disinfection is clearly indicated, and its performance should be properly carried out. It is well to consider disinfection a chemical operation, where, under favorable conditions of heat and moisture, one chemical—the disinfectant—combines with another chemical—the albuminous body of the organism—(these two being destroyed as such in the operation) to form an entirely new inert chemical, the results of the combining substances. As an example, the disinfectant, bichloride of mercury, combining with the organism, albumen, results in the formation of albuminate of mercury, and, if it can be conceived that the combining substances are in the exact amount to satisfy, there is no longer any bichloride of mercury, no longer any organism, but a new and, so far as infection is concerned, inert substance. As much care should be used to insure the union of the substances in the operation of disinfection as would be observed in any chemical experiment in a laboratory where exact results are hoped for; anything less than this is a confession of ignorance, and the result is apt to be what ignorance usually brings forth—failure.

Having set forth what we believe to be the principles of disinfection, let us consider its practical demonstration in the sterilization of infected areas. The first thing to determine is the choice of disinfectant; this will be indicated by the kind of organism to be destroyed. If bacteria alone are to be considered, formaldehyde gas is the disinfectant par excellence. If, on the other hand, we must consider not only bacteria, but their insect living hosts—as the mosquito, the louse, the fly, and the flea—then we must use an agent that combines the qualities of disinfectant and insecticide, and here we find sulphur dioxide liberated in the presence of steam or a very humid atmosphere of the best service.

Having chosen a disinfectant, the preparation of the area for its liberation and the amount to be used and the method of generation must be decided. For practical purposes it will be found that sulphur in the amount of 4 pounds for every 1,000 cubic feet of air space and 40-percent formaldehyde solution, 10 ounces for every 1,000 cubic feet of air space, will, under proper methods of generation, liberate sufficient amount of disinfectant gas to destroy organisms in any part of the area if the time of exposure has been long enough to insure the combination of the chemical with the organism. With sulphur it requires an exposure of eight hours from the beginning of the process, and with formaldehyde an exposure of six hours, to insure disinfection.

An ordinary disinfection would be performed in this manner: The room or ward to be disinfected would be carefully measured and its cubic area determined. All cracks, crevices, and openings of every kind would be closed by pasting paper over them, so as to make the room as near gas-tight as possible. If sulphur were chosen as the disinfectant, finely cracked brimstone in the proportion given above would be placed in an iron pan or pot, and this sulphur receptacle placed on a brick in a dish pan containing water 2 inches in depth, the dish pan to be placed on a number of bricks on the floor to insure protection against fire. The water in the dish pan serves the double purpose of protection against fire and the source of moisture necessary to disinfection with this agent, sulphuric or sulphurous acid, not sulphur dioxide, being the bactericide. To start the sulphur burning, a little of it on the top and in the center of the pan is made finely granular and a little wood alcohol poured on it and ignited. This method would be used to rid premises of bed bugs and other insects as well as bacteria.

If formaldehyde were to be chosen as the disinfectant, it could be generated in the following manner, using the amount for each 1,000 cubic feet as mentioned above. Immediately before using, add 1 ounce of commercial sulphuric acid to 10 ounces of 40-percent formaldehyde solution, and pour this mixture on 1 pound of unslacked lime. There will be an immediate evolution of formaldehyde gas. Care must be used in using the sulphuric acid, as its careless handling may result in a serious burn.

Following the use of a fumigant, the room should be thoroughly aired, and door knobs and woodwork that it is believed may have been infected and left dirty should be thoroughly washed with soap and soda solution—1 ounce of common soda added to 13 quarts of hot soap suds (soft soap and water).

This great amount of space has been given to disinfection because it should be used when indicated, although it is less practicable than some other methods for preventing the spread of infection.

With our present knowledge there are many things we can do—indeed, have been doing for many years—that will more surely control infection than the use of disinfectants. We assume, and these are assumptions without proof, but with much circumstantial evidence to support them, that certain of the exanthema liberate their infectious organisms at a certain time in the disease and through certain channels. For example, in measles in the first days in the disease, in the catarrhal stages, the organisms come from the inflamed mucous membranes of the upper air passages; in scarlet fever, in the first weeks of the disease the organisms come from the inflamed mucous membrane of the tonsils and upper air passages, or from discharges incident to the disease; diphtheria, we know, is usually a disease where the organisms are confined to the throat and nasal mucous membranes, and is infectious as long as the organisms remain in the throat. These three are illustrative of all diseases whose spread we must combat in our hospital work.

By far the most important factor, and the one that most statisticians ignore, that prevents the spread of infection is the immunity of the exposed. A history of having had the exanthemata in persons who have been exposed in hospital wards is sufficient to consider them immune, and we need not worry about their contracting the disease.

Where a history of immunity cannot be established in exposed persons, we must, a day or two before the end of the period of incubation of the disease after exposure, put the exposed patients to bed and be extremely careful to carry out the so-called barrier system first recommended by Dr. J. Lewis Smith in his excellent work on Children's Diseases, 1887. Nurses, attendants, and food that have come in contact with one of these cases must not come in contact with any other case until rendered sterile.

The surest way of reducing bacteria to small numbers in a laboratory is by dilution, and the same thing holds good in a hospital ward. The free and frequent use of soap and water will be more efficient than the improper use of hand disinfection. Hand disinfection, however, should not be discarded because its careless use by some discredits it. On the other hand, it is the duty of those who must control infection to instruct, and to compel their subordinates to use all the technic of personal hygiene necessary to the protection of those intrusted to their care against any and all kinds of infection.

There has been a tendency of late years to discard the use of caps and gowns in contagious disease wards unless in actual contact with the cases. To my mind this is a dangerous procedure and is like playing with fire, except that any burning through failure to use caps and gowns falls on an innocent and unprotected third party, who pays the penalty of some other person's ignorance—not his own.

It may be laid down as a cardinal principle that, once a highly communicable disease is discovered in a ward, this ward, its inmates, attendants, and equipment are to be considered and operated as an isolation service would be in a contagious disease hospital. The practical rules for such a service would be: All attendants of every character before entering the infected area should be divested of their ordinary outer garments, or have them protected by suitable covering garments, preferably suitable gowns that entirely cover them. The hair, a notorious dust gatherer, and therefore bacteria gatherer, should be protected by a suitable cap. Before leaving the infected area, attendants should be divested of their exposed clothing, and the hands, and face if contact has been very intimate, should be thoroughly washed and irrigated with water and a disinfectant hand solution used. If the disease is a highly communicable one, such as smallpox, it may be desirable to confine the efforts of all attendants, including medical, to this one service.

Nurses who do the bedside nursing should not perform any other nursing duty while detailed to one infection. Cleaners should not be allowed to come in contact with the patient, and should be under close supervision in their work and compelled to observe the same personal hygiene laid down for all attendants. Equipment of every kind must remain in the infected area until sterilized or quarantine is lifted. No food or food containers or dishes are to be returned to the kitchen. Soiled and infected clothing and linen is to be made sterile before taken to the general laundry. If the disease is terminated by quarantine, it is not necessary to disinfect; if it is terminated by death or the case is removed to other premises, the area must be disinfected.

The writer has not changed the opinion voiced before this association eight years ago at Toronto that he believes contagious diseases can be treated in general hospitals, and that the other patients can be properly safeguarded against infection. Every year adds to our knowledge new measures of protection against the spread of infection. No hospital has fulfilled its obligations to its patients and employees unless it has used every practical scientific procedure to protect them against infection. With a full knowledge of their importance, failure to have all food handlers subjected to the Wassermann, the Widal, and the Schick tests, if not criminal negligence, at least shows a close approach to moral turpitude.

In this paper there have been enumerated certain measures which, if properly used, ought to control the spread of infection, but, without knowledge of the disease to be controlled, all of these will be without avail. The precept that "knowledge is power" was never more applicable than in the treatment of contagious diseases.

Grading and Classification of Nurses

COMMITTEE OF AMERICAN HOSPITAL ASSOCIATION PUBLISHES STUDY AND RECOMMENDATIONS TO BE MADE AT PHILADELEHIA

The standing committee of the American Hospital Association on Standardization and Grading of Nurses has completed and printed its report to be submitted to the Philadelphia meeting. The report covers about 12,000 words, and hence is too long for publication in a periodical such as THE MODERN HOSPITAL, but some of the salient points in the report can be given.

The report is a valuable contribution to nursing and hospital literature. It goes more constructively into the problems that are facing the United States and Canada today in the nursing field than such reports usually do, and the committee has at last justified its existence by its survey of the situation and by some very worth-while recommendations.

The report, boiled down, finds some things existing in the nursing field that are not right; for instance, it finds that there are too many surgical nurses and not enough nurses with general training; it finds that there are too many trained nurses of all sorts in private practice who are "registered against" the acute communicable diseases; it finds that too few nurses are being trained for actual care of the sick in the homes, especially in homes that cannot afford to pay trained nurse fees; it finds that there are too many practical nurses, or attendants, without adequate hospital training, who are being pressed into service to care for critical cases that require a high degree of technical skill, and on this point it finds also that there are many medical men who are introducing such nurses into the homes of their patients as trained nurses.

The committee finds that too much stress is being laid, in small communities and in some state legislation, on the number of beds that shall justify the conduct of a training school, while too little attention is paid to the character of training that is given in these small hospitals.

The committee also finds that specialties in nursing are not being given proper recognition in nurse training, such, for instance, as tuberculosis nursing, mental nursing, maternity nursing, and the nursing of chronic diseases, and more especially the nursing of the acute communicable diseases.

The committee pays some attention to an experiment that has been going on in Detroit during the past two years, whose object is the development of home nursing of people in moderate circumstances. The committee finds that many practical nurses who have offered themselves in connection with that experiment were women without moral stamina, that many of them were rejected probationers, and that a good many of them were at the time of their applications doing private nursing, and that they were representing themselves as graduate nurses. After

experience with a good many of these women, it was found that they were a shiftless, improvident, careless class, many of whom followed many occupations in the course of the year and only a few of whom faced the field with a sincere purpose to prepare themselves for work in a legitimate field and with the intention to continue in it. It found also that, after a good many of these women had been given a certain amount of training in homes under adequate supervision, they were unwilling to do the things most needed to be done—viz., to help with the housekeeping and with the well children in addition to caring for the sick.

RECOMMENDATIONS

The committee made a good many recommendations and offers carefully thought out arguments on a good many mooted points.

The committee recommends that special hospitals—especially tuberculosis, acute infectious disease, mental disease, and chronic disease institutions—rearrange their administration so that they can put in training schools to give special attention to that particular class of diseases in which the institution is engaged; but the committee recommends strongly that these special training schools should, by some process of affiliation, give a general training of at least a year in addition to the special training. The committee finds that sufficient special training is given in general hospitals in eye, ear, and orthopedic cases, and that such institutions do not need to install training schools.

The committee recommends that a special study be instituted in each state in this country and in the provinces of Canada with a view to creating homogeneity and a certain reciprocity and affiliation between the institutions in the state or province, and it recommends further on this point that, wherever possible, pupils should be compelled to complete their training in the institution, and more especially in the state in which it began, in order that a certain amount of responsibility might be fixed and the state treated as a whole in its relations to the nursing world generally; and as a part of this plan it believes in complete reciprocity between the states and provinces.

In its study of conditions the committee found that there were two classes of people who specially needed other nursing facilities than those now afforded—viz., people who could afford to pay, for short periods at least, for a nurse whose fees would not exceed $15—these people the committee thought had incomes around $30 a week; and a second class of people who could not pay more than $5 to $7. For the first of these classes the committee thought a good organization in the community, with competent supervision and the available partly trained local material, could take care of the problem, but the committee recommends that for the second group some form of sickness insurance would have to be evolved.

The committee laid particular stress on the need of community nursing centers in which the best available class of women could be partly trained to meet local needs, and the committee suggested the following heads under which this partial training could be given:

SUGGESTIONS FOR CLASS INSTRUCTION[1]

In response to several requests for some guidance as to the instruction which should be given to household nurses or attendants, the committee submits the following outline:

Etiquette and ethics of the sickroom. Germ theory and principles of asepsis. Methods of sterilization and disinfection of every-day sickroom utensils. Household hygiene and management of sickroom. Personal hygiene with special reference to avoidance of infection. Care of bed, bed-making, bed-sores, etc. Making the best of household materials in sickness. Personal every-day care of sick. Special methods of promoting the patient's comfort. Feeding the sick. Invalid cookery. Temperature, pulse, and respiration. Observation of patients and note-taking. Baths, cleansing, and to reduce fever. Home treatment—packs, hot and cold; enemata; douches; poultices; cold compresses; hot fomentations; sweat baths; care of ice caps, hot water bottles, etc. The giving of medicines. Ordinary care and feeding of infants. Ordinary care of sick children. Common household disinfectants—how to make and use them; precautions. Practical points on dealing with communicable diseases in the home. Bandaging. Household emergencies and minor wounds. Ordinary maternity nursing. Special medical cases and care of chronic invalids.

PERSONAL REQUIREMENTS

A certificate of health; high moral character; sufficient education to read and write and keep intelligent notes of cases; recommendations from not less than two responsible citizens (not relatives), one of whom shall be a clergyman.

[1]It is suggested that practical demonstration of correct sickroom methods be included, whenever possible, in every lesson in classroom and at the bedside.

The Hospital's Obligation to Every Patient Who Enters the Institution[1]

BY JOHN T. BOTTOMLEY, M. D., F. A. C. S., Boston, Mass.

It should be self-evident that every hospital from the very moment of the opening of its doors and the reception of its first patient assumes an obligation and a responsibility which must be discharged conscientiously, or the hospital fails to a greater or less degree in the performance of its full duty. A hospital, it is true, has other obligations than those relating solely to patients, but nevertheless the suitable care of patients represents its highest obligation and its most important duty, and it is with my idea of the proper fulfillment of this duty that this brief paper has to do.

I realize that I have undertaken a difficult, and probably a thankless, task, and that I am touching a subject on which the hospital executively may have one opinion, the hospital professionally another opinion, and as to which even the patient may dare to hold views. But there should be and is some fundamental rule of conduct with regard to which the minds of all may come to at least approximate agreement.

By way of preamble, let me say that I yield to no one in my admiration of the splendid work that has been done and the magnificent example of Christian charity that has been given by our Catholic hospitals and the devoted religious who conduct them. No one realizes more fully than I the noble sacrifice of self and the unstinted personal service on the part of these holy women who have alone overcome almost insurmountable obstacles and made these monumental works possible. With the greatest reverence and with the most sincere respect, I salute them.

Yet our best friends are not always those who do naught but praise us; the corrective word of friendly criticism, though it stings at the time, may in the end be the most salutary. And I beg you to remember that any

[1]Read at the meeting of the Catholic Hospital Association, Milwaukee, June 7-9, 1916.

word of criticism that I may sound comes from a friendly heart, and is meant to be constructive and not destructive.

Now, hospital machinery comes in contact with the individual patient in many ways—through the executive staff, through the visiting staff, through the house staff, through the nurses, and through the hospital equipment, animate and inanimate. Each point of contact entails reciprocal obligations, and it is into the hospital's share of these that we are to make inquiry.

EXECUTIVE STAFF

We have come to the day when the superintendency of a hospital is almost a profession in itself, when a man or woman (and I believe that the position should, when at all possible, be filled by a man) who is chosen as a superintendent should be selected because of peculiar fitness for the place, and in addition to that because of special training for the place. The money collected for a hospital, the funds donated for hospital purposes, belong by every right to the patients, present and prospective, and these funds must not be unwisely expended either in unskilled planning, in ill-advised repairs, in duplicated or unnecessary appointments, in wasted space, in unbusinesslike buying of supplies, in waste of material, in useless decorations, or in any one of a hundred other possible ways. In other words, the money should be expended by or at least with the advice of an expert superintendent, not only before and during the building of a hospital, but just as necessarily after the wards are open and the patients have come. This is a matter of which I hesitate to speak at length here, but I feel strongly that the executive management of many of our Catholic hospitals can be greatly improved. As a rule, the superintendent should be a man versed in the principles at least of modern medicine, for it is usually only such a man who can grasp adequately the many-sided problems that must come up for consideration and decision in hospital management, and consequently only such a man who can cooperate intelligently and fully with the professional staff. The matter of expense, I know, often stands in the way of securing a competent person.

In point of time, the first direct obligation of the hospital to a patient is a kindly reception, and an adequate office force that will give to his family and immediate friends proper information of the patient in a pleasant way. I need not, I am sure, dilate on the need of a kindly reception for the patient. The lack of it in present-day institutions is by no means uncommon, and leads to early and growing complaint and dissatisfaction. Its need has long been known. In olden days in the French Hospital at Angers the hospital statutes demanded that the prioress herself should go without delay to receive a patient, or should send one of the sisters for that purpose, "not severe or hard, but kind of countenance" (J. J. Walsh: The Popes and Science, 1908, page 259). I am not sure that such a statute would be amiss today in many of our institutions. I present the thought for your consideration. Let not our charity wear a stony face. Do not receive the patient as if he were an undesirable alien. A kindly reception, amiability in countenance and manner, is a long step in the direction of getting the patient's good-will and cooperation. Consideration of the patient's family and friends leads far in the same direction. A friendly public feeling is not to be despised by any hospital. I know that it is a difficult matter to handle kindly some patients and the friends of some patients, but a small investment of tact and courtesy usually brings a large return in many acceptable ways.

I shall only mention, in passing, the need of a prompt, courteous, intelligent information service in the hospital office. Why so many hospitals are so negligent in this regard passes my understanding. Inefficient information service, which is the rule rather than the exception in our hospitals, is a very expensive item in the conduct of an institution, and I am not familiar with any better method of acquiring the ill-will and resentment of the public. Proper service is, in my opinion, a matter of apparent expense, but of real economy.

VISITING STAFF

The patient, once admitted, has a right to expect the attention of a conscientiously selected staff, the members of which shall work together in unselfish cooperation. The obligation for the conscientious selection of such a body rests on the hospital. In many of our Catholic hospitals in the past the selection of the personnel of the staff has been justly open to much unfavorable criticism. No man should be appointed to a hospital staff simply and solely because he has a large practice, or is a friend of this or that sister superior, or of this or that cleric, or of this or that politician. Any hospital board that appoints men to its professional staff solely on any of these grounds fails immediately in its highest duty—the adequate care and the greatest good of the patient. That such appointments have been made, there can be no question; that such appointments have resulted in all sorts of professional errors, both of omission and commission, is certain; that this practice must cease, if we are going to advance as rapidly and as far as we should, is quite as certain. A man should not be appointed to a professional position because he is Catholic or Protestant, English or Irish, your friend or my friend, but only because he has the brains, the training, and the disposition to give honest, efficient, unselfish service to the sick intrusted to his care. I realize the handicap under which Catholic hospitals and Catholic physicians have labored in some localities in the past; I realize the partial justice of the claim that Catholic hospitals should have at least a just proportion of Catholic physicians in attendance, and, other things being equal, that a proportion of the physicians should be Catholics. But we must see to it that we make the other things equal—we must train for the work, we must put our brains into it, we must be prepared to sacrifice ourselves and our pleasure for it, and no one should expect a staff appointment simply and solely because he belongs to this or that church, or is a friend of this or that man or woman, and for no other adequate reason. On the other hand, granted that he has the brains, the training, and the disposition, the fact that he is of this or that faith, or has friends in this or that quarter, should certainly not weigh against him.

I am strongly in favor of the system under which one man is made chief of a service (medical, surgical, orthopedic, etc., as the case may be), is on continuous duty, and is held responsible for the conduct of his service. He is to recommend to the executive board for staff appointments under him such assistants as he wants, he is to map out their work for them, he is to see that this work is properly done, and he is to be held responsible to the executive board for the satisfactory care of the patients in his wards. In contrast with the system that appoints many men to a service for relatively short periods of time, the one-man system makes for uniformity, and consequently economy of conduct and for, I believe, far better service to patients, because it tends to the development of a very few good men instead of many only mediocre men.

I believe that executive boards should give a staff every aid that a wise administration of the finances will permit, and should demand in return from the staff honest, efficient, cooperative, productive service. The hospital, through its staff, also owes it to the patient that a careful record of his medical history should be made, preserved, and so catalogued that it may be easily found and used for the good, not only of the patient directly concerned now, but also for that of patients in prospective. Through the staff, too, the hospital must seek to gain the willing cooperation of the patient in his treatment. I believe that patients should be regarded as intelligent human beings, and that such phases of the diagnosis and proposed treatment of their condition as they may reasonably and safely know should be placed before them for their consideration and judgment. A better mutual understanding will result with added benefit to both the institution and the individual.

INTERNS

In the choice of men for internship, favoritism should play no part. An intern is altogether too important a spoke in the hospital wheel to permit of his being chosen in any other than a most conscientious way. It is no place for the youth with the mind of a boy, to whom an internship means only one or two years more added to his loafing, nonresponsible period. An internship, I believe, is the most important time, in a formative way, of the young physician's whole medical life. It should be filled only by youths who are serious in their pursuit of professional knowledge and training, and who realize that they are being offered the most precious boon that can be given to any student of medicine. The examination, as a method of choice for appointments, is far from satisfactory; a practical is better than a written, and both are faulty. Personally, I like to talk to applicants, and to scan closely not only their school standing in studies, but their general conduct. I want to know also the feeling of teachers regarding them as individuals. I would far rather have a man of distinctly mediocre ability who regards his position and his work seriously than a brilliant youth who regards it lightly. I do not consider the choice of suitable interns as anything more than an indirect obligation of the hospital executively; it is, on the other hand, a direct obligation of the professional staff, on which rests the equally important duty of training these interns adequately. They should be taught to care for the individual patient, to take proper clinical histories (perhaps the most important and surely the least appreciated part of their training), to make the ordinary physical, chemical, and physiological tests, and finally to acquire the gentle art of handling patients tactfully and of securing their cooperation.

NURSING STAFF

It goes without saying that the hospital has the obligation of providing for the patient a nursing force adequate in number, physical condition, and training. The nursing problem in hospitals offers a wide field for discussion. Though it is often difficult for a training school to get a sufficient number of suitable applicants, yet I believe that applicants should be investigated thoroughly. The possession of all the qualities of mind and body necessary for the making of a good nurse is not given to every woman, and for that reason the hospital should study applicants closely. The decision as to their suitability should be made either immediately when the candidate applies or after a period of probation, which, though brief, should be long enough to allow a just weeding out of the unfit. Paragons are not to be expected, but there must be some minimum degree of possession of certain qualities below which the hospital may not go in its choice. It is chiefly to determine the possession or want of this minimum that the probationary period is established, and a probationer should be watched most carefully. At the end of her probationary period, if there is any doubt as to her suitability, she should be dismissed at once. Justice to the applicant, to the patient, and to the hospital demands this. It is entirely unfair to allow a young woman to go far in her training and then to dismiss her for anything except the gravest breach of rules. Once a nurse is accepted, the hospital must see to it that she has teachers fit to instruct her in her work, and that she is fed and housed in such a way that she will be physically conditioned for the hard work she must do. There should be, first of all, a capable trained superintendent of nurses—a woman who knows her business, and who can both direct and teach others intelligently. Only such candidates as have demonstrated suitable personal and mental qualifications should be allowed to advance from the period of probation into the nursing school proper. These pupil nurses, once accepted, may in all justice expect of the hospital a good, common-sense training in the profession of nursing. I lay stress on the phrase, "a good, common-sense training." I do not mean what may be termed an overtraining. I am strongly in favor of grounding the pupil nurse thoroughly in the essentials of her work, of training her to be observant, of emphasizing to her the importance of detail, of imparting to her the technic of the actual care of the patients, and of impressing on her the necessity of being kindly and humane. Some elementary facts of hygiene, of the action of drugs, of anatomy and bacteriology, the pupil nurse should have presented to her in such a way that she will grasp the relation of these facts to her daily work. But she should not be overtrained along this line; she should not be given too much bacteriology, too much pathology, too much physiology, too much anatomy. At best, nurses can acquire but little knowledge of these subjects; at best, much knowledge of them can be of but little practical avail to the average nurse, and, most important of all, there is no field where more danger lies in a little knowledge. The nurse should not be trained to take the place of the physician, but should be schooled only to aid him. We are tending, I believe, too far in the direction of overeducating the average nurse in a general way, and of undereducating her in ways that are more specific, more useful, and more practical. Knowledge of how to make a sufferer comfortable, of how to manage a kitchen, of how to prepare and serve nourishment in an attractive way, how to order household supplies, how to arrange and keep clean a room, and, if I may use a homely term, how to "mother" a patient and make him comfortable, is far more important practically than a knowledge of the theory of the origin of tumors, of the microscopic appearance of bacteria, of the surgery of the stomach, of the attachment of muscles, of urinalysis, etc. In other words, do not carry too far the strictly professional side of the training; take some of the often misspent time and teach properly selected nurses with good dispositions and kindly manners to be compassionate, and to remember always that their patients are not well, normal-acting, normal-feeling people, but sick, and, because they are sick, often ill-acting, ill-feeling people, who are to be both judged and treated sympathetically. If the hospital can succeed in thus impressing its nurses, a goodly portion of the obligation to the patient has been discharged.

Furthermore, not only should the hospital furnish com-

petent, kindly nurses, but it should furnish them in sufficient numbers. Having too few nurses means not only inadequate care of the patients, but overworked, tired-out nurses, and a further crippling of the nursing service. The hospital, moreover, owes it to the patients that these nurses are properly fed, properly shod, and properly instructed in the conservation of their own health. All this makes for progress in the direction of nursing efficiency and hospital economy in its true sense. I have in mind now an institution where the number of nurses is too few, and where the nurses are improperly and insufficiently fed. When the attention of the superintendent was called to this fact, the necessity of economy was advanced as a reason for its existence. Such economy is by no means true economy, but in every way false economy, as was distinctly indicated by the morbidity rate in this nursing school.

How little we hear of nursing efficiency and how great the need of hearing about it! I wonder how many superintendents of nurses and how many head nurses have ever read Dr. W. Gilman Thompson's illuminating practical article on "Efficiency in Nursing" in the *Journal of the American Medical Association* of December 13, 1913. "Does anyone know how many unnecessary steps the ward nurse takes or how often she unnecessarily bends her back or lifts heavy weights?" he asks, and then continues to cite a few striking examples of inefficiency in ward nursing that have fallen within his own experience. Does anyone think how often the comfort of patients may be sacrificed that the ward appearance may be uniform and neat? Have you any definite idea of how much valuable time is wasted because a nurse is not only allowed, but sometimes made, to work without any intelligent direction of her work by those who are paid to give it intelligent direction? I ask every superintendent of training schools here present to read Dr. Thompson's article, and then to go into her hospital ward and see wherein she can work reforms in the direction of greater comfort for the patients, more conservation of the nurses' energy, and greater efficiency in her nurses' work. I do not think that patients should be coddled. Good care is not synonymous with coddling. The one is an obligation of the hospital to the patient; the other has no part in it.

HOSPITAL EQUIPMENT

There are certain essentials in equipment which every hospital should have. The nonessentials, while they may be most desirable and convenient, are not necessary to the adequate care of the patients, and the degree of their possession must be determined by the financial condition of an institution. The machinery necessary for the proper preparation and attractive serving of good food and that required for the maintenance of cleanliness in every department of the hospital is indispensable.

I am under the impression that one of the most common complaints of patients against hospitals is on the score of food and of its service. The question of providing suitable food in an economic way is an important one. Efficiency in this regard, though costly at first, in the end spells economy. One essential in the solution of the problem is an executive department that, through a trained superintendent, uses skillful methods in buying food products, that is willing to install a modern culinary plant, that will so arrange dumbwaiters and other means of transporting the cooked food, diet kitchens in their geographical relations to the wards, etc., that food may reach the patient before it has become cold and unpalatable; an executive department that will see wisdom in the employment of a first-class chef who shall overlook the actual preparation of the food, and of a trained dietitian who shall see to it that the individual patient has the diet best suited to his peculiar malady, for in these scientific days both the patient and his disease must be considered together. Another important essential, and one that is often entirely lacking, I am sorry to say, is a visiting staff with sufficient interest in this matter to exercise a watchful supervision over the suitability of the food for the individual case and over the manner in which it is served.

When all these are provided for, something else still remains to be done. It has to do with detail, but is nevertheless most important. Let me once more quote briefly from Thompson's article. Speaking of the usefulness of having suitable back rests convenient to the ward bed, he says: "Often a convalescent is able to sit up only long enough to eat a meal, which he could do in comfort with a back rest. But what nurse has time at the meal hour to walk a block and bring in a heavy rest to be used only a few minutes and then take it back? How much simpler to set the dinner tray flat on the patient's stomach, and let him try to eat lying flat, etc." All of this I quote simply to indicate that details tending to the comfort of the patient should receive some consideration and thought. It is not alone the essentials that must be provided.

One of the first things to strike the attention of a visitor to a strange hospital is the general atmosphere (so to speak) of cleanliness or its lack. One of the greatest comforts the average hospital patient can have is the cleanliness that should surround him, and for that reason alone, if for no other, the hospital has the obligation of being cleanly. The ward should be clean and orderly within reason, the floors free from litter, the beds and linen should be spotless, the nurses should be garbed simply and fittingly, and the orderlies should have at least the appearance of cleanliness; the out-of-the-way spots and the seldom-seen corners should be frequently inspected, and, of course, cleanliness should reach its acme on the operating floor. This point of cleanliness and order deserves more time than I can give it in a paper of this sort. A dirty, disorderly hospital is not to be tolerated.

It is conceded that a laboratory sufficiently well equipped for the making of the ordinary chemical examinations should be provided. While it is most desirable that every hospital should establish a pathological and bacteriological laboratory, and employ a competent full-time pathologist and bacteriologist, many hospitals cannot afford these luxuries. Nevertheless, pathological examinations must be made, vaccines, etc., must be prepared, and, if the hospital cannot afford laboratories of its own, it must pay for accommodation in the laboratories of its more fortunate sister institutions.

In these days a roentgen laboratory in a hospital is a necessity for the purposes of both diagnosis and treatment. Though the first cost of such a plant is very considerable, yet its installation, equipment, and maintenance can be financed gradually through the fees received from such users of it as are able to pay.

Departments of physical therapeutics, of hydrotherapeutics, of electrotherapeutics, etc., would of course be most desirable; equally desirable would be ample provision for outdoor and sunlight treatment, but all these are luxuries, and may well be dispensed with until the actual requisites have been secured.

It goes without saying that the apparatus necessary for the making of thorough physical and clinical examina-

tions and for the proper giving of post-operative and other treatment should be at hand in every hospital.

COMFORT OF PATIENTS

Coming to things of lesser importance, provision should always be made for the unusually long as well as for the unusually wide patient in the wards. Foot rests should be at hand, that patients may brace against them and sit comfortably in bed without slipping to the foot; likewise, there should be some simple, nonirritating method of keeping the feeble or mentally dull or mildly delirious patients from falling out of bed; in short, provide for the many lesser, perhaps nonessential, things that add so much to the welfare and comfort of the patient in bed. Science, in its application, should always be well mixed with common sense and kindness. It is often not so much the fine scientific equipment of the hospital, the expensive walls and floors, and the elaborate laboratories that spell comfort to the patient as it is the attention to the little homely details of individual service, and the cultivation of an atmosphere of kindness, cheerfulness, and assurance.

When does the responsibility of the public hospital to its patients cease? This opens a wide field for discussion, and I am not going to enter it to any marked extent. I merely present a few ideas for your future thought. How far should the patient be carried in his convalescence? This is an important consideration in the case of the poor and needy. Shall he be kept until he is able to work? Shall provision be made for gradually bringing his muscles up to the condition necessary for his undertaking his usual tasks?

Shall a follow-up system be instituted and maintained? If it is instituted, should not the information be gained as far as possible through the patient's family physician? I believe that it should, and I believe, too, that hospitals have too little regard for the family physician in many ways. It would, in my opinion, help many patients a great deal if, on their discharge, the family physician should receive not only the hospital's diagnosis of the case and a report of the operation or other hospital treatment, but also an outline of suggested treatment.

Unfortunately, the matter of expense is to be considered in connection with all these ideas, and each hospital must settle these and many other questions with due consideration and regard for the state of its finances. It is to be remembered, however, in this connection that the reputation of a hospital, and consequently the probable number of people eventually seeking assistance at its doors, as well as the interest of the general public in it, depends much on the comfort and care given patients as they come and go. The expense necessary for providing this comfort and care, while burdensome at first, in the end should prove to be a wise investment and should bring a large return.

It is eminently fitting that the Catholic Hospital Association of today, under the honorary presidency of a Catholic archbishop, should consider at one of its sessions the various duties, relations, and obligations of public hospitals, since it was within the bosom of the Catholic Church in the early days of the thirteenth century that public hospitals were first instituted, and later fostered in strict keeping with the kindly spirit of true Christian charity that has ever animated that Church in its attitude to suffering, afflicted humanity.

In this historic fact and in the countless acts of Christian charity, most of which are unheralded and unsung, that Catholic hospitals and Catholic sisterhoods have accomplished during the centuries which have followed the thirteenth into history, let us take proper satisfaction and only that. Let us not regard this fact and these deeds as something to which we may point with pride, and then become fixed in the pose of pointing; let us not boast of this fact and these deeds, and out of ourselves and our own efforts give nothing to add to them; let us rather regard them as a splendid heritage which we should cherish and guard, and which should stir us to realize and discharge as best we may our obligations to our contemporaries and to our posterity as did our forefathers to their contemporaries and to us.

Sea Mussels as a Food in Hospitals

The sea mussel, one of the best and most abundant of sea foods, according to a bulletin recently issued by the United States Bureau of Fisheries, furnishes an example of waste of natural resources in America through failure to utilize it. In Europe the sea mussel is one of the most highly regarded shellfishes. Great Britain and Ireland consume about 35,000,000 pounds and little Holland over 65,000,000 pounds a year. In France about 400,000,000 pounds are produced annually and cooked in ways to delight the epicure.

The quantity of actual nutriment contained in the edible portions (the meat and liquor) of the mussel is slightly greater than in oysters and clams, and the mussel, therefore, contains at least as much food, pound for pound, as is found in related shellfish in common use. As the shells are thinner, a bushel of mussels contains considerably more foodstuffs than an equal quantity of oysters. A peck of sea mussels in the shell will supply all of the meat required for a meal for ten persons. Sea mussels are among the most easily digestible of foods, as has been demonstrated by the experience of consumers. Persons of weak digestion have found that they can eat sea mussels with impunity when meats cause them to suffer.

Sea mussels possess the advantage of being in season when oysters are out of season. But comparatively few oysters are marketed from April to September, and this is the season at which mussels are at their best on the coast of the New England and middle Atlantic states. Mussels can be cooked in the same ways as oysters and clams, and will afford a welcome change in the diet list for patients or hospital employees.

How to Calculate Syrup Density

Reference to the table herewith will enable the home or hospital canner to prepare syrup of any desired density. No allowance has been made for evaporation. For a 12 percent or degree syrup use 1½ pounds of sugar to 5½ quarts of water; for a 15 percent or degree syrup use 3 pounds of sugar to 8½ quarts of water; for an 18 percent or degree syrup use 4½ pounds of sugar to 10½ quarts of water; for a 24 percent or degree syrup use 6 pounds of sugar to 9½ quarts of water; for a 28 percent or degree syrup use 7 pounds of sugar to 9 quarts of water; for a 35 percent or degree syrup use 7 pounds of sugar to 6½ quarts of water; for a 40 percent or degree syrup use 2 pounds of sugar to 1½ quarts of water; for a 50 percent or degree syrup use 1 pound of sugar to 1 quart of water; for a 60 percent or degree syrup use 6 pounds of sugar to 4½ quarts of water; for a 64 percent or degree syrup use 16 pounds of sugar to 4½ quarts of water.—[O. H. Benson in The Forecast.

The erection of a $25,000 sanatorium has just been completed at Marlin, Texas, for Dr. W. H. Allen.

CURRENT HOSPITAL LITERATURE

ALBERT ALLEMANN, M. D., Foreign Literature,
Army Medical Museum and Library, Office of the Surgeon-General, United States Army.

The Portuguese-Hebrew Hospital in Amsterdam (Het Portugeesch-Israelitisch Ziekenhuis). Nosokomos, Amsterdam, 1916, No. 25.

Recently the new hospital of the Portuguese-Hebrew colony was opened. The colony of Portuguese Jews in Amsterdam has existed since 1610, but their old hospital no longer conformed to the standard of modern times, especially as it served at the same time as an orphan asylum. The new hospital is a neat building, and equipped with all the improvements of modern hospital construction.

The Hospital of the French Cities in Milan (L'ospedale delle citta francesi in Milano). Dr. L. Pagliani. Rivista di ingegneria san., Milano, 1916, XII, No. 6.

Some time ago the Italian colony in Paris established a hospital in that city for sick and wounded French soldiers. Lately a similar hospital was founded for Italian soldiers in Milano, and the money was furnished by public subscription in all the larger cities of France. The hospital was established in a spacious factory, which was kindly offered for this purpose by its owners. The large rooms have been splendidly furnished and equipped with all the necessaries of a hospital. The hospital contains 180 beds, and is under the management of the Red Cross organization.

English Hospitals Recommend the Use of Margarine in Place of Butter. The Hospital, London.

Margarine has now been used instead of butter at the Belfast Poor-Law Infirmary for three months. The result has been most satisfactory, $1,725 having been saved, and, apart from the protest at the beginning of the trial, there has been no complaint. When the substitution was first made, the medical officers were authorized to order butter for any patient for whom they considered it desirable. This power has not been exercised by any of the medical officers. Dr. John McLeish reported on the matter on behalf of the medical staff, and said that up to the present they had observed no injurious effects from the use of margarine upon the patients in the infirmary.

The New Pediatric Clinic in Milan (La nuova clinica pediatrica a Milano). Rivista di ingegner. san., Torino, 1916, XII, No. 7.

Milan is one of the most progressive cities of Italy, and has better hospital accommodation than any other city in the kingdom. Another step forward has recently been made by the erection of a new pediatric clinic. The city owes this fine institution to the benevolent spirit of a wealthy lady, Signorina de Marchi. The new hospital is located on Commenda street. To protect the hospital from the street dust, the main front was placed 10 meters back from the sidewalk, the intervening space being taken up by flower beds. The hospital contains three stories. From the middle of the main building a long, narrow structure extends backward, so that the ground plan of the hospital has the form of an inverted T. The ground on each side of the rear building is taken up by a garden.

The Municipal Hospital as a Factor in Clinical Teaching. Hanau W. Loeb, M. D. Journal Am. Med. Assn., LXVI, No. 22.

Since the establishment of the first medical school in America there has been a tacit understanding that the patients in public institutions should be placed at the disposal of medical colleges for clinical instruction. Under present conditions there is an economic waste of thousands of patients in municipal hospitals, who are lost as material for instruction to students in medicine. The author urges a closer cooperation between the hospital administration and medical schools, as well as public propaganda illustrating the good that could be accomplished by such a plan. The results would be that American medical institutions, like the European, would be able to bring the highest ideals of medicine into municipal hospitals and at the same time provide students with the absolutely essential.

Hospitalization at Leysin of Indigent Citizens of Vaud affected with Surgical Tuberculosis (L'hospitalisation a Leysin de Vaudois indigents atteints de tuberculoses chirurgicales). Bulletin démogr. et san. suisse, Berne, 1916, No. 11.

The league against tuberculosis of the Canton of Vaud, assisted by the cantonal government, has undertaken to send every year a certain number of poor children and adults suffering from surgical tuberculosis to Dr. Rollier's famous tuberculosis clinic at Leysin. It was at first intended to build a special hospital there, but on account of the war this plan had to be deferred to a later time. As the Leysin method cures completely the majority of cases of surgical tuberculosis, the organization of this service is expected to do much good. Statistics show that during the last twelve years on an average 240 patients died in the Canton of Vaud from surgical tuberculosis—i. e., tuberculosis of the bones, joints, peritoneum, and genitourinary organs.

Standardization of State Requirements of Training Schools for Nurses. Mary Brooks Eyre, R. N., American Jour. of Nursing, 1916, XVI, No. 9.

1. The main object of standardization is to further, through state registration boards, the efficiency of schools of nursing to meet the needs of the community.

2. Regulation by state boards is in line with modern efficiency methods.

3. Divergence of conditions obtaining in the different states makes standardization a matter for careful deliberation, and necessitates a choice of the practical rather than the ideal.

4. It is important not to attempt standards which cannot be honestly and wholly fulfilled by the schools in all states equally.

5. While not within the limitations of this paper to discuss all requirements, certain of them are especially urged, such as those covering affiliation, instruction of pupils, examination in practical work by examining boards, and standardization of the final passing grade.

6. The value of state-wide inspection by the state boards is emphasized and the accurate recording of sta-

tistics for the use of boards and of the bureau of registration, on whom the work of standardization must devolve.

7. The uniform standard of requirements leads ultimately to the establishment of a national examining board for nurses.

Washing and Cleaning. Wilder D. Bancroft. Journal of Home Economics, 1916, VIII, No. 7.

In the removal of dirt or grease spots from textiles, the following tentative classifications are suggested: 1, mechanical removal; 2, dissolving in a liquid; 3, peptizing with a liquid; 4, peptizing with a solution; 5, peptizing with a peptized colloid; 6, peptizing in several stages; 7, absorption in several stages; 8, peptizing with a liquid and absorption by solid; 9, change of substance forming the spot. Principles of this classification are enumerated and examples of various methods explained in detail. The author dwells on the scientific side of cleaning, demonstrating physical and chemical facts in view of decreasing labor as well as the conservation of textile goods. It is quite apparent that if the head of the hospital laundry were to consult the chemist or druggist regarding various drug stains, many dollars could be saved thereby. More encouragement should be given to research into the methods of absorption by solids in the laundry field.

Hospital Assistance in Florence (L'assistenza ospedaliera a Firence). Rassegna sanitaria, Milano, 1916, XIV, No. 6.

The Italian hospitals are still to a great extent charitable institutions. Pay patients are few, and the number of indigent sick people asking for admittance to the hospitals is constantly growing. This condition prevails in many Italian cities, and, since the revenues of the hospitals remain in most cases the same, these institutions are laboring under financial difficulties. The hospitals are crowded, and there are frequently not sufficient means to erect new buildings. The city of Florence is in a similar condition with regard to hospital accommodation. There is need of a new large hospital, as the old ones are all overcrowded and are far from filling the demands of modern hygiene. In 1911 the city decided to erect a new large hospital, which, when completed, will have room for 1,000 patients. Two pavilions for tuberculous patients, one for men and one for women, are already completed. All the pavilions to be erected will have two stories and will be able to house 68 patients each.

Standard for Determining the Suitability of Patients for Admission to a Free Dispensary. Borden S. Veeder, M. D. Jour. of the Am. Med. Assn., 1916, XLVII, No. 2.

Inquiry has shown that a definite standard of financial suitability for admission to free dispensaries has not been based on a study of the economic principles involved. There are two more or less distinct purposes for which dispensaries have been established—namely, for purposes of medical education and as a means of furnishing free treatment to the indigent poor. Each type of dispensary serves a purpose valuable in itself to both the medical profession and the public. Although it is natural to consider whether the same standard of admission is suitable for each type of dispensary, no such difference has been used in working out the standard described in this paper. A basic income has been worked out for various types of families and individuals below which patients should receive free medical services, and a classified scale is described for extending this standard for specified purposes.

The problem of dispensary abuse is in reality not so big as it is generally considered. Investigation shows that the actual percentage of abuse, where an effort is made to eliminate it, is small, and that but 2 percent of the patients being treated at the Washington University dispensary are financially unsuitable for treatment. The various means so far suggested to eliminate this 2 percent are impracticable.

Training the Hospital Dietitian. Alice V. Fewell. Am. Journal of Nursing, 1916, XVI, No. 10.

The author deplores the fact that the majority of dietitians are educated in schools designed for teachers of domestic science. Here they receive a thorough course in the theory and practice of cookery, the chemistry of food, physiology, and also in psychology and methods of teaching. Only a short part of the student's training is devoted to the study of invalid cookery and the principles of dietetic treatment of the sick. When she finishes this course and receives her diploma, she is well fitted to teach domestic science in schools and colleges, but is she fitted to take up the duties in a hospital and instruct nurses in hospital dietetics and invalid cookery?

The solution of this problem of training the dietitian lies in the hands of both the hospital and the domestic science school. Surely by a cooperation of these two institutions a course of training could be established which would benefit not only the dietitian, but the hospital as well.

The question of training the dietitian is bound to be taken up by hospitals and nurses all over the country, and the result will be a very different training for the dietitian of the future. The hospitals also must, to a large extent, modify some of their demands on the dietitian. Many dietitians are today doing, besides their own special work, also the work of housekeeper and purveyor for the hospital. We must lay down a definite line of work for the dietitian in the hospital, and then give her a training which will make her equal to her task.

Shall the Fahrenheit Thermometer Be Abolished? Ed. Southern Medical Jour., 1916, IX, No. 8.

It may be of interest to hospitals and medical fraternities that Congressman Albert Johnson has introduced into the House of Representatives a bill (H. R. 528) to discontinue the Fahrenheit thermometer in Government reports. Some of the arguments brought out by the advocates of the change to the centigrade are: 1, that the centigrade scale is the recognized standard for all civilized governments save the English-speaking countries; 2, that the method is in use by all scientific men the world over; 3, that the transition would be gradual, since the Fahrenheit equivalent could be given in parentheses for a period, say, of eight or ten years; 4, that the greater difference represented by a degree of centigrade as contrasted with Fahrenheit would have a tendency to render the various temperatures more capable of conveying a definite meaning; 5, that the whole world would have a uniform scale; 6, that much valuable time now consumed in translating the one scale into the other would be saved; 7, that the weather bureau, the great source of temperature data, cannot make the change without Congressional sanction; if that bureau were authorized to use the centigrade, the public would acquire effort, and would welcome the simplicity just as they welcome the simplicity of standard time; the only landmark they would have to fix in their minds would be normal blood heat, about 98.6 F., which

would thereafter be called 37° C; 8, that if our fathers had not had some initiative, we would still be using the clumsy English monetary system in the place of our decimal system; 9, that Fahrenheit's mistake in the placing the zero not at freezing point, but 32 degrees below it, has been perpetuated for 195 years simply because nobody has taken the trouble to propose its discontinuance.

Hospital Internship. J. M. Boldg, M. D. Journal of the Am. Med. Assn., 1916, LXVII, No. 8.

From the point of view of an internship, it is utterly impossible to consider many institutions at the present time calling themselves hospitals, under this designation. In order to be of service to the intern, scientific departments should be provided for; the balance of the hospital should be built around these departments. The author lays stress on better pathological and medical laboratories, roentgen ray, anesthetic department, necropsy room, and competent system of record-keeping through the entire institution. Staff men who neglect the opportunities offered by such scientific departments should be promptly retired and should be no longer tolerated in the hospital service. Superintendents should arrange a routine schedule, so that work goes daily to the laboratory, whether or not the staff men make a request. Records in all departments of the institution are a requisite of a properly standardized hospital. These records should cover, as a minimum, admission cards, record cards according to diseases, history sheets, temperature charts, order sheets, bedside records, operating and anesthetic records, laboratory request, finding sheets with correct card index of the laboratory, requisite and finding sheets with card index of roentgen ray department, follow-up cards carrying the house number, etc. Lack of interest in necropsy work in America is evident. This indifference is one of the greatest defects of present hospitals, and a strict effort should be made to rectify it.

Getting Rid of Ants. Ed. American Food Jour., 1916, XI, No. 8.

As long as conditions are such as to attract ants, measures for getting rid of the insects will be of little value, says a new publication of the United States Department of Agriculture, Farmers' Bulletin 740, by C. L. Marlatt. The first step in freeing a place from these pests is, therefore, to clean up all food that may be scattered about, and to keep food supplies which may attract ants in antproof metal containers or in ice boxes. Cake, bread, sugar, meat, and similar substances are especially likely to attract the insects.

The use of baits is not recommended in the bulletin already mentioned because of the danger that these will serve merely to draw more insects into the house and thus actually increase the nuisance. Where it can be safely used, however, a syrup poisoned with arsenate of soda has been found effective. The formula for this syrup is 1 pound of sugar dissolved in 1 quart of water, to which should be added 125 grains of arsenate of soda. This mixture is boiled and strained, and on cooling is used to moisten sponges, which are placed where they can be reached easily by the ants. The insects collect the syrup and convey it to their nests, so that the whole colony is ultimately poisoned. Although this method has been found effective, as has been said, it should be remembered that the arsenate of soda is poisonous to human beings and to animals as well as to ants, and that its use must be safeguarded by the greatest precautions.

The Function of the Observation Ward at the City Hospital. M. A. Bliss, M. D., St. Louis. Journal of the Missouri State Medical Assn., 1916, XIII, No. 8.

Briefly summarized, the advantages of temporary detention in an observation ward of the City Hospital are these:

1. Instead of a jail, convenient hospital facilities are provided for the temporary confinement of insane individuals whose conduct endangers the life or property, or disturbs the peace, of their family, their friends, or the public at large.

2. The patient is given the advantage and the protection of a thorough mental examination by competent alienists in a general hospital prior to confinement in a hospital for the care of the insane. This offers the relatives or friends an opportunity to make arrangements for his future care, and protect the patient from commitment to an institution after dishonest representations.

3. The city is protected from individuals requiring prolonged treatment and care to which they are not entitled, and those to whom care is due are transferred with a great portion of necessary routine work completed.

4. The juvenile and the adult offender are sent to the court only after an examination by trained observers, who desire to recommend educational and corrective treatment when indicated rather than penal or legal.

5. Facilities are provided for treating temporary mental conditions and those induced by alcohol and drugs.

A Critical Analysis of Out-patient Work from the Point of View of Efficiency. Lovell Langstroth, M. D. Jour. of the Am. Med. Assn., 1916, LXVII, No. 2.

Three hundred and forty-eight records form the basis of the following report, and, while this is a small number on which to formulate definite conclusions, they are suggestive, and should form the basis of future investigation, in which a large number of cases could be considered with the following facts for guidance:

1. Thirty-eight percent of the patients failed to return after diagnosis. The introduction of a follow-up system would decrease this percentage.

2. Eleven percent of the patients did not return a sufficient number of times to justify making a diagnosis. The institution of a department for preliminary examination of the patients is suggested in order to assign the cases to the proper departments and to eliminate those who come for trivial causes.

3. There were twenty-seven cases, or 7 percent of the whole number, in which it was not found possible to make a definite diagnosis.

4. Seventy-five percent of the patients sent to the hospital for further examination or treatment had a correct admission diagnosis.

5. Much of the time lost in referring patients to other clinics for consultation might be saved by equipping the medical department for the commoner special examinations.

6. Only thirty-eight percent of the patients in this series were benefited by their visits to the clinics.

7. Eighty-three percent of the patients did not return to the clinics after three months.

The author felt that those who have taken an interested part in out-patient work will agree that there is here the same need for careful attention to detail and effectiveness as in hospital work, but that this is rarely given. The figures show that this work, when considered from the point of view of the end-results, is disappointing, and they are given with the hope of stimulating interest in out-patient work and raising its standard.

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The Value of Hydrotherapy in State Hospitals. Harriett H. Baird, R. N. Trained Nurse and Hospital Review, 1916, LVII, No. 3.

Who Is a Dispensary Patient? Ed. Jour. Mo. State Med. Assn., 1916, XIII, No. 8.

With the indorsement of the Clara Barton National Memorial Association, a motion picture film to portray the life of Clara Barton is being produced in a ten-reel series to be known as "The Angel of the Battlefields." The pictures are being made at the actual scenes of Miss Barton's work—one at the White House, portraying her conference with Lincoln; one at Santiago, and others on battlefields of the Civil War. The services of 4,000 persons will be required in the staging, and the production is expected to cost $100,000. The scenario was written by Colonel Charles Sumner, who was a friend of Miss Barton for thirty-five years. The film will not be released for a year. It will be shown first in legitimate theaters, and afterward will make its abode in the memorial hall which is to be erected to Miss Barton in Washington, where periodical exhibitions will be given.

A community hospital, to be known as the Arnold Gregory Memorial, was opened at Albion, N. Y., September 12, in charge of Miss Nellie Gillett.

DEPARTMENT OF NURSING

Conducted by MISS ANNIE W. GOODRICH.
Teachers' College, Columbia University, New York City.

Please address items of news and inquiries regarding Department of Nursing to the editor of this department, Teachers' College, Columbia University, New York City.

The Training School for Nurses as a Social Center

BY BLANCHE PFEFFERKORN, R. N.,
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If any institution, by virtue of its birthright, can justly claim the joy of service, that institution is the training school for nurses. Added to this privilege is a second, and in no way a lesser behest—the great opportunity of the training school, by the very nature of its organization, to act as a social center. Considering that the training school has developed the first beyond all expectations, it has been singularly remiss concerning the second.

The reasons for this disregard are many—they involve the entire history of nursing. It might be briefly stated, however, that the neglect is far more apparent than real. Any thinking person, conversant with the old training school demands, will concede that the sin has been one of almost inevitable omission. Its chief cause can be easily predicated to insufficient numbers, long hours of duty, inadequate housing for social gatherings, and the necessary readjustments to a varying state of needs.

"The old order changeth." Of nothing can this be said more truly than of the training school for nurses. Both external and internal conditions are passing through a transitory stage. Society is now asking for a product quite different from the trained nurse of 1890. Twenty years ago her career included two possibilities—private nursing and institutional work. Today she is presented with a constantly increasing circle of opportunities, involving educational, civic, public health, social, and scientific fields. If she is to respond to these diverse calls effectively, her training must be something more than mere technical preparation—it must comprise a fine appreciation of her responsibility as an active element in the social structure.

An analysis of the purpose and organization of the training school will disclose that it is peculiarly fitted to develop the "socialized" individual. Its workshop is the hospital. This workshop does not consist of things, but human beings. Often these human beings are of different races and different nationalities. Mind, as well as body, requires treatment; each is a separate problem. In addition to the patients, the student nurse meets the friends of patients, casual visitors to the hospital, the maids and orderlies, and the medical staff. The educational value of this constant, and more or less close, contact with many types of people is inevitable. Her toleration is increased; her social sympathies are broadened; her understanding of character and her adaptation to varied personalities assume new proportions. But, great as are these advantages, they are only incidentals that go with the day's work. The positive socializing factors of a nurse's education lie in the carrying out of the purpose of the school and the social relations of that body.

In his "Talk to Teachers," James says that "one who is educated is able practically to extricate himself, by means of the examples with which his mind is stored, and of the abstract conceptions which he has acquired, from circumstances in which he was never placed before." This quotation expresses the aim of a training school exactly. The education of a nurse carries out this aim by supplying her with a well-selected experience, both practical and theoretical. This experience provides for discipline, culture, altruism, and utility. The final test of the social efficiency of a nurse is her application of these principles in meeting daily situations.

The second positive factor, the social relations of the student body within the home, is teeming over with educational opportunities. Here are a number of people, living under the same roof, working along the same lines, filling a common need. Their unity of purpose and interests demands an interchange of thought and expression. Then, too, there exists another motivation for group activity. A work requiring application as intensive as nursing presents the danger of narrowing the individual. The nurses themselves are well aware of this fact. They clearly perceive that outside sympathies must be cultivated if their broader vision is to be kept unimpaired.

To stimulate a vigorous corporate life in the home, different schools are trying different methods. In most instances the administration is simply employing the "hands off" policy, then quietly watching the results, and stepping in only when absolutely necessary. As the students are a mature body, legitimate freedom, combined with mutual interests, seems to be sufficient incentive. The movement for a finer, higher government and interrelation in the home is growing out of the very heart of the school.

The training school for nurses connected with the Barnes Hospital of the Washington University in St. Louis furnishes an excellent example of this movement. In reply to an inquiry, the following information, which is given almost verbatim, was received. The different classes have class organizations and class functions, and conduct business pertaining to the class. Recently the senior class voted unanimously that a member of their class was unworthy of further consideration and should resign. They collected enough money to send her home.

The school has a form of self-government, conducted by a council composed of delegates from each class. The association regulates the conduct and affairs of the nurses off duty. When a nurse's conduct off duty is thought undesirable, her name is presented to the council in writing by three members of the association or by the superintendent of nurses. The council deals with the matter and, if necessary, takes the case to the association. Last spring, when the superintendent presented the names of two nurses, one was given another chance, and the other received an unfavorable vote and resigned at once before the decision of the association could be conveyed to the superintendent. This winter the names of two more offenders were brought up and both were voted another trial. One of these was a senior, who was sent home by her own class after the action of the association. Evidently the class organizations are the final authority.

The self-government is not as yet definitely worked out. Neither constitution nor by-laws exist, but the coun-

cil is now at work on a schedule of duties, election of officers, appointment of members to the council, etc. The nurses, as a whole, are very enthusiastic about self-government. The superintendent of nurses expresses the opinion that she feels it is having a decided influence on the personal development as well as the conduct of the group.

In addition to the school government and class organizations, the students are initiating and regulating various other activities. The association voted to have a weekly evening chapel service of twenty minutes, compulsory for the students. The superintendent conducts the service on request of the association. A May fete was introduced last year, and bids fair to become an annual custom. Music, a May pole dance, folk dances, and refreshments were among the features of the day. Not only the nurses, but the patients, employees, doctors, and visitors, shared this entertainment.

At the Newton Training School the impulse is taking a somewhat different direction. The social life is in charge of a social expert, who is a college graduate, with

Fig. 1. Miss Ford, junior pupil nurse, dancing at the May fete of the training school of Washington University, St. Louis.

special preparation for this work. She is called the physical and social director. Her duties are along suggestive and advisory rather than autocratic lines. The students themselves are the active factors. The seniors have started a "Current Events," the juniors a "Book Lovers'" Club. Folk dancing and social dancing classes have been formed. The entire school is entertained once every two weeks by one of the classes, the hostess for the occasion being chosen by the class. A student branch of the Y. W. C. A. was organized and accepted by the national organization. Through cooperation with the public library, a substation was established in the nurses' home. One hundred new books are left and removed each month. Particular attention has been paid to outdoor sports, such as skating, archery, basket ball, and tennis. In summarizing the purpose and results of the experiment, the superintendent of nurses writes: "The single desire is to give each individual nurse health and joy in her present duties, with a sense of security in her preparedness for the future. The results are especially seen in a better school spirit, loyal to the point of inspiration. Instead of the school family being merely a working organization, it has become one, united in its pleasures and enterprises as well, with a drawing together equal to that of the real family."

The Massachusetts General Training School is also manifesting some rather interesting signs of group activity. Each class has its officers. They meet when there is something special they wish to consider as a class, but they have no regular meetings. A student government association has

Fig. 2. Children from the St. Louis Children's Hospital being taken across the road to the May fete of the training school of Washington University.

been formed and is growing in strength. A glee club is organized once a year, and is active about six weeks or two months before graduation. The old lines of demarcation between class and class are almost entirely obliterated. Only a nurse familiar with the old formal separation of classes, social as well as professional, can grasp the full significance of this last action.

Sufficient illustrations must have been given to demonstrate that the training school for nurses is very fairly taking its place, with other educational institutions, as a social center. The nurse of today is coming into her heritage as never before. Not only joy of service, but consciousness of social obligations and social preparedness, are some of the fruits of her training. She can truthfully claim to be one of the socialized products of modern society.

Why Does the Nurse in the General Hospital Need Training for Mental Work?[1]

BY EFFIE M. TAYLOR, R. N.,

Supervisor of Administration, Phipps Psychiatric Clinic, Johns Hopkins Hospital, Baltimore.

In Dr. Adolf Meyer's address on "Where should we attack the problem of the prevention of mental defect and mental disease," at the National Conference of Charities and Corrections in Baltimore in 1915, he emphasizes, as one of his distinctive ideals in constructive work, dealing with certain clearly defined issues, the importance of "making the attack at the source," and this we would wish to do in the discussion of the problem involved in providing education in mental nursing for the general hospital student nurse, but the significant question is, What and where is the source?

Until within the last decade the nursing of the mentally sick was not an important part of the constructive and curative work of the hospital, and, in fact, it is only of recent years that the medical treatment of mental disease has assumed its present attitude toward its possibilities and responsibilities, but experience is teaching the value

[1]Read at the twenty-second annual convention of the National League of Nursing Education, New Orleans, La., May 1, 1916.

of reeducative and constructive measures, and, together with the advance in medical knowledge of how best to treat the mentally ill, comes the advance in nursing knowledge of how to nurse the mentally ill, and physicians everywhere are calling loudly for women prepared to assist them in putting into practice what formerly was spoken of as "what should be," but never was!

A general awakening of the community to the fact that hospitals for the insane are not simply retreats and asylums, where "peculiar people" can be segregated from other members of society, and kept in confinement until such a time as their Creator sees fit to remove them, is fast taking place, and experience is showing that something more than custodial care is required if scientific work is to be accomplished.

Today the term "insane asylum" is being replaced by "state hospital"—an institution with a specific function, that of caring for and treating patients suffering from mental disease by modern methods; and such medical evolution calls for a corresponding development in nursing, so that what is to be the character of this development becomes the problem of the state hospital training school at the present time.

It is doubtful that even one physician, if asked in plain terms as to the relative value of the educated, cultured woman, and the ignorant, uncultured woman in caring for the mentally ill, would pronounce them as equal, and yet in many of our mental hospitals today no provision is made for a nursing staff superior in education and training to that of domestics.

In Miss Tucker's splendid report, based on a questionnaire sent out to the hospitals for the insane in the various states, we are given a somewhat adequate idea of what conditions exist in our training schools in state hospitals, although only 71 replies from 154 questionnaires were received. Of this number, only 41 had training schools of any kind, and of the 41 a very small proportion of the women at the head of the schools were adequately qualified to fill the position.

It is very difficult to form a true judgment of conditions in a hospital from mere questions and statistics, for there are nurses and nurses, and attendants and attendants, and personal qualifications cannot thus be properly estimated; but, when one realizes that with requirements for admission almost as flexible as desired; age requirements 18 years and less; hours of duty approximately from twelve to fifteen daily; very little attention paid to theoretical work; little or no practical supervision of ward work; domestics transferred from the scullery to the training school; meals served more often than not in the ward dining rooms; with only nineteen nurses' homes; and, to add to the complications in the majority of cases, the superintendent of the training school possessing little or no authority, it is not to be wondered at that applicants of even an ordinary type are difficult to obtain; indeed, to me it seems a miracle that there are as many splendid women as are found in state hospitals. This may, however, be explained by the fact that many people know little about what conditions should exist in hospitals, and judge of their value by the size, salaries paid to pupil nurses, and the length of the training school course; when once in the institution, a desire to accept a responsibility once assumed and a resolve not to be overcome by defeat has perhaps induced many women to continue a course almost unbearable. It is true also that the work itself is fascinating to many, and the feeling that one is a support and comfort to patients so dependent somewhat compensates a good type of woman for her personal discomfort.

The conditions described in the report are not wholly typical of all state hospital training schools. While it is true that all more or less are bound down by laws, the regulations of the state, and of the hospital superintendent, and, with few exceptions, little real authority rests in the hands of the superintendent of nurses, a few of our institutions have succeeded in climbing up far beyond the rest. Connected with some hospitals are attractive nurses' homes; the attendants are a separate group; the wards are supervised by graduate nurses; a fairly good course of study is arranged; shorter hours on duty and longer vacations have been granted; better admission requirements, and affiliations in several instances with the large general hospitals are made, by which the graduates become eligible for state registration. True it is that even in these schools much is yet to be desired, but to those who are following closely the changes from year to year great encouragement is forthcoming, and what some schools have accomplished by persistent endeavor, even amid trials and frequent discouragements, often with keen opposition, many others may also accomplish. The need in the work is for better equipped women, with higher ideals and more courage, to wrestle with the problems; women who, by tact, patience, insight, foresight, and judgment, can cooperate with the hospital superintendents and convince them that they are capable of being intrusted with the nursing affairs of the hospital and the management of the training school. This is the hope for the future of state hospital training schools, and such women must be found. The field is full of teaching material, and should be available to those who need it; and to the general hospital we must look for help in the solution of the problem. Perhaps we are nearing the source of the difficulty, and may make the "attack."

And now to ask the question, "Why does the nurse in general work need mental training?" A great deal is being said at the present time concerning the curriculum in the training schools, and the question of specialization and election throughout the three years' course is being discussed with enthusiasm. Miss Lawler, superintendent of the Johns Hopkins Training School, expresses the opinion that the three years' course should be planned essentially to prepare the student for general nursing, and lay the foundation for the special branches to be perfected in a school equipped to deal with the particular problems involved in the special field of work chosen by the individual. The question naturally suggesting itself in this connection is, In what class shall we place the study of mental nursing? Judging from the consideration given the subject in the general hospital training schools, we feel certain that it does not belong in that class, for few schools recognize its importance beyond a few isolated lectures, generally given by one ill equipped to discuss the subject. Apparently, therefore, we are to suppose that its place is in the special hospital, and for the present we will assume that this is true.

Again to quote from Dr. Meyer, "What is vaguely called insanity—a term which the physician would gladly leave to the lawyer if he can use it—is really a wide range of greatly differing conditions and diseases, all playing havoc with our organ and functions of conduct and behavior."

What is our organ of conduct and behavior? Can we separate the brain and the body into two distinct organisms, or are they each a part of one complete whole? The answer is obvious; and this suggests the answer to

our question, Why do all nurses need training in mental work? Our general hospitals, in the main at present, are taking cognizance of only one-half of the human organism. The illness of the bodily organs is studied, and curative measures are taught, with little or no consideration for the illness of the brain, excepting in conditions where a definite pathological change is apparent. Illness which shows itself in an improper functioning of the organ and in a lack of adjustment to environment, or in unusual behavior, is not a recognized identity in the general hospital, and yet in every individual there is the possibility that, under conducive conditions, symptoms of an inharmonious functioning of one-half of the human organism may develop, and we may go further and say that, under conducive conditions which are present in every individual at times, an inharmonious functioning of the organ does develop. If this be true, is it not safe to say that a nurse is incompletely and inadequately prepared to meet the every-day demands on her intelligence if she has had no preparation for this important and ever-present type of illness? It is not altogether a special and peculiar condition, found only in the few, but to a more or less extent a constant condition found in the many.

Would one not think a nurse well equipped if she said, "I can take care of a patient suffering from an illness of the lungs or heart, but I cannot take care of a patient suffering from an illness of the stomach or kidney;" "I can care for a patient with pneumonia, but I know nothing of typhoid fever." Is she not also badly equipped if she is compelled to ask, "Is it a physical or a mental illness?" We think, "Yes," but I hear some one say, "You are not logical—you have the point of view of the specialist;" "Mental nursing is an entirely different branch of work, and cannot be classed with general work;" or, "What is there for a nurse to learn in mental nursing?" To answer the first question—yes, we have the point of view of the specialist, and that is well, for the reason that it is only by studying carefully any subject as a specialty that one is in a position to generalize. It is only by completely mastering a problem that one recognizes its points of similarity and difference to allied or opposing problems. It is the specialist who learns the needs and discriminates. To answer the second question, mental nursing is not an entirely different branch of work, and can be classed properly with general work; in fact, it is so much an integral part of general work that it is almost impossible to discover an abnormal physical condition without some corresponding abnormal mental condition associated with it.

In the general hospital wards associated with physical illness we see delirium, depression, excitement, neurasthenia, phychasthenia, paranoia, deterioration, and other psychoses; in fact, almost all conditions, more or less defined, which one finds in the special or mental hospital. And, again, you ask, "Why, then, does the nurse not get experience in mental nursing in her general training?" For the reason that seldon does the general hospital physician or the nurse recognize these conditions, and they are left uncared for. The patient is bathed and fed, and given the treatment and medication prescribed; but no time is taken to inquire into the reason why he is cross or irritable; why he weeps or why he laughs; why he is listless or why excited; why he has ideas of unreality, fear, and persecution; why he has cravings for this thing or that, or why he has questionable habits. He is frequently described as ungovernable, intolerable, disagreeable, impatient, selfish, and no effort is made to understand the why and wherefore. The other extreme is found equally often, where a patient is humored and encouraged in morbid fancies and desires, by overindulgence and personal care, and the difficulty in the situation is the lack of an understanding of the underlying principles governing human life.

And is not this an important issue to the woman whose every moment is spent in the service of humanity? There is no abstraction about the nursing profession. It is a living, vital thing. The nurse is brought into contact with the life of her patient in the most intimate way, and her influence for good or evil is not to be estimated. It is the nurse who first takes care of the new-born infant. She sees the child as it grows up. She knows the home conditions as no one else does. She sees the boy and girl in school. She sees and is the friend of the girl in the factory and in the shop. She is in the district, and she is in the home of the wealthy. She knows the ignorant and she knows the cultured. In what other profession do women have her opportunities? What, then, should be her equipment to meet these responsibilities and opportunities in her daily walk through life? "Prevention" is the watchword in mental work, and to the educated nurse is given the opportunity. Why, then, do all nurses need mental training? Need I ask it? One cannot do preventive work if one does not know what should be prevented, nor can one observe without a knowledge of what to observe, and the mental and physical life are so closely related that one cannot consider one without the other.

In the early days before hospitals for the insane were established in this country, the patients were frequently cared for in general hospitals, but the care and treatment was largely custodial and the patients were released as soon as the excitement and confusion disappeared. Later, asylums in isolated districts were built in which to confine the unfortunate persons suffering from mental disturbances. These illnesses were not understood, and were looked on in the light of a disgrace, and the patient as more or less a criminal. But now the trend of things is toward a revival of the first plan—that of connecting the general with the mental hospital, but with widely different methods. The hospital now has become a place of study and research, rather than one of confinement and detention, and mental illnesses are studied under the same scientific conditions as physical illnesses.

To be sure, hospitals for the care of the mentally ill cannot all be in close proximity to general hospitals. The nature of the illness of the patients makes it undesirable when certain conditions are present, but the fact that these conditions are recognized as a symptom of illness, and that those suffering may be induced to seek help early in clinics in general hospitals, constitutes the most progressive step toward lessening what, according to statistics, is an overwhelmingly increasing evil. In order to do the most effective work, which can be accomplished only in the beginning of these illnesses, medical students and nurses must be educated to recognize the earliest suggestion of abnormality in the behavior and conduct of the individual.

Dr. Henry M. Hurd, when writing on the care of mental disease in general hospitals, said:

"Both physicians and nurses are filled with the spirit of the hospital which stands for constant effort for the cure of patients. General hospital nurses and physicians, in their turn, feel the mighty influence of a department which gives itself without reserve to the sympathetic care of those who are suffering in mind as well as in body, and who need the highest devotion of both physicians and nurses.

"If a general hospital is engaged in the education of medical men and nurses, these are additional reasons why it is desirable that opportunities be afforded to these two classes of students to become familiar,

on the one hand, with the recognition of forms of mental disorder and the best hospital methods of care, and, on the other, with nursing.

"It is further important that the study of the phenomena of mental disease should be made obligatory on medical students and nurses. Such disorders are encountered daily in the routine of general medical practice or of nursing. How few there are who are able to discriminate between a toxic delirium due to an infection, a fever, a poisoning by iodoform or some apparently harmless remedy used in medicine or surgery, etc., and a well-developed form of mental disease requiring close study and watchful care. And yet the future of the patient may be permanently affected for weal or woe by the prompt recognition of the condition."

Unfortunately, perhaps, all hospitals have not mental clinics as a special or allied department, and consequently all hospitals have not the facilities for providing within themselves this very essential part of a nurse's education, so, "if the mountain will not come to Mahomet, Mahomet must go to the mountain," and the inference is that, if the hospital training school needs affiliation, it must go after it.

The state hospital is fast recognizing an inadequacy within its own environment in providing a satisfactory and well-rounded training for the pupil nurses in its training school, and is stretching out its arms to the general hospital for branches not available. And why should not the general hospital recognize its limitations and recognize its needs? Those who claim that this need cannot be met give, as one reason why there cannot be an affiliation of general hospitals with mental hospitals, the lack of proper provision in state and private mental hospitals for the housing and care of nurses. While this is true in the majority of our mental hospitals, there are institutions where the living conditions are most desirable, and others are fast improving, or would improve, if sufficient pressure were brought to bear on the matter by the authorities of general hospitals before making affiliations; but we cannot wait for the millennium to come, and meantime are losing golden opportunities for this important preparation in a field already white unto harvest.

It is evident to a close observer that the affiliation of general hospital training schools with mental hospital training schools would assist in the solution of that very serious problem of providing the best kind of nursing care for the mentally ill patient. In connection with this question, also, Dr. Hurd has said:

"The nursing care of mental disease can never be adequately accomplished until it is placed in the hands of educated women who are trained for it and are familiar with general nursing, but who need an insight into the higher privileges of the nurse which are acquired only by actual contact with mental cases."

If the adequate nursing care of mental patients is to be accomplished through the educated nurse, it would seem that the plan of receiving students into the training school through the attendant class is not a very safe or sound one on any but a purely economic basis. Students must qualify here as elsewhere, and it is impossible, when ten to fifteen hours of the day are those allotted for hospital duty, to spend much time in study. One of our advocates of higher standards for nursing education still writes: "I should, of course, encourage persons in the orderly or maid servant group to endeavor to rise to the higher or training school grade, but I should be inclined to give up the idea of putting 'round pegs in square holes' by insisting on persons of all grades of intelligence going through the same training school."

We feel that round pegs are still being put into square holes by encouraging this standard and associating it with the training school. Democracy is a watchword in education, but, while it is occasionally true that unusual people with ambition and courage do enter into the humblest fields of labor for a period long enough to enable them to procure means to attain to something better, these are the exception and not the rule, and it would seem that such isolated cases should be considered individually if we are to encourage the best type of woman to enter our training schools and raise nursing education to what it should be.

How can affiliation be accomplished? and how can time be spared in the three years' course to provide for the additional training? are questions, no doubt, which will arise in the minds of those already struggling with an overflowing curriculum, and a consideration for the needs of the hospital, which under our present system we are forced to recognize and provide for by our training schools. To enter into an adequate discussion of the plan would be a topic for another paper. Suffice it for us to remark that many greater problems than this have been solved by the splendid women of our beloved profession, and it is only for them to see the need to make provision to meet it; and, as was stated earlier in the discussion of this issue, the three years' course is designed to lay the foundation for all branches of nursing and not provide specialists in any, and it is only to this extent we claim that all nurses need some experience in mental work if they are to intelligently meet the daily demands thrust on all.

The decision as to how long a time should be spent in such study must be left at present to the individual schools, trusting that they will make use of what is available, and, failing a present affiliation, that the educators in the training schools will appreciate the value of mental teaching and experience for general work, and will advocate a supplementary course until public sentiment has been created in favor of its introduction as a required course in the curriculum of every training school.

We have spoken of the value of experience in mental nursing to the student as a nurse, but there is another value which we cannot underestimate—it is the unquestioned value to the student as a woman. There is no power greater than contact with one's fellows in a mental hospital to set one straight about oneself. Every nurse comes into the work with the feeling that she is associating with a group of people, one of which she could never become; but with a fuller understanding of the nature and causes underlying mental diseases comes a knowledge of our own mechanism, and an appreciation of the difficulties with which all have to contend. To see one's personality in its true light, to recognize and appreciate ideas and feelings otherwise a mystery, and to have courage to hold them up to view and accept them as definable and tangible —this in itself is a sufficient reason for desiring the experience. To be sure, a great deal depends on of what the nurse's work consists, and whether in the mental hospital she is simply a means to an end; but in an institution where the nurse's education has an identity, and where she is instructed systematically, she cannot fail to gain an insight into life and its variations which will prove to be one of her greatest assets, irrespective of the field in which she elects to work.

It may seem as though we have not kept very closely to our subject, but these problems are so essentially yours and mine, and are so interrelated, that one encroaches on some other territory without realizing it. The care of the mentally sick has such varied phases, and the hospital problems are so many, that it is difficult to determine where one begins and the other ends; and, when we face the fact that, as institutional, private duty, and public health nurses, we come in daily contact with it in one form or another, it is important that we lay aside prejudice and ignorance, and take time to consider what is our personal responsibility and to ask what do we know about it?

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Hospital Aid for School Children—Facilities and Procedure for Tonsil and Adenoid Operations in New York City Hospitals and Dispensaries

BY J. H. BERKOWITZ,

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Of 305,665 school children examined for physical defects in New York city during the school year 1914-15, 63,445, or over 27 percent, suffered from defective nasal breathing and diseased tonsils. Practically all those children required operations for the removal of these serious defects, and, as about one-half the number belonged in the indigent class or just below the dividing line between those who can and those who cannot afford to pay the high fees of private surgeons, they gave rise to a problem—that of providing adequate clinical facilities for their treatment. Toward the solution of this problem the municipality and philanthropic institutions have contributed considerably, and yet the cases reported terminated as under effective treatment during the past three years never amounted to more than 37 percent of the number in need of treatment. One reason for this has been the insufficiency of clinics.

In order to determine what the actual available facilities for this work in New York city are, the Bureau of Welfare of School Children has made a series of investigations covering seventy hospitals and dispensaries maintained by the city and by private philanthropies, on the results of which the present study is based. In this survey of clinical facilities information was sought on the method of operation for tonsils and adenoids, ward accommodations, number of children operated upon, fees charged, investigation of applicants, etc. Besides giving the results of the inquiries on these cardinal points, this study will also present some data on and discussion of the cost of these cases at private and public hospitals, the compensation offered by the city to private hospitals for the treatment of cases which cannot be accommodated in the city hospitals, and the use and abuse of hospital and dispensary privileges.

EXTENT OF CLINICAL FACILITIES

That the need of special facilities for the disposal of the large number of school children's cases was very urgent, and that the available facilities were inadequate to the city's needs, became evident four years ago when the exceedingly numerous neglected cases caused the health department to establish special clinics for operative treatment of diseased tonsils and adenoids. Available statistics show that over 50 percent of the cases terminated were operated upon at free clinics, and that from 25 percent to 31 percent of these were operated upon at the health department clinics. At the present time the available clinics are those of the general municipal hospitals and the private hospitals and dispensaries, the school children's clinics of the health department having been discontinued.[1]

Out of seventy institutions on which information was obtained, sixty-two have nose and throat clinics. These are classified as follows:

Private hospitals	45
Private dispensaries	11
Municipal hospitals	6

The available nose and throat clinics may be grouped according to the types of institutions maintaining them—e. g., general hospitals, children's hospitals, hospitals or infirmaries specializing in nose and throat and allied work, and dispensaries. From the census given in the following table it will be seen that more than half the total number of clinics are in the Borough of Manhattan:

TABLE I. CENSUS OF CLINICS

Privately and Municipally Maintained.

Borough	General Hospitals	Special Hospitals	Children's Hospitals	Dispensaries
Manhattan	20	6	2	8
Bronx	4	1	..	..
Brooklyn	13	1	..	3
Queens	2	..	..	..
Richmond	2	..	..	..
Total for city	41	8	2	11

Total number of clinics in Greater New York, 62.

MANNER OF OPERATION AND AFTER-CARE

In considering the adequacy of facilities and method of operation, the clinics were classified according to their compliance with the requirements now generally indorsed by medical authorities and as set forth in the following resolution of the Public Health Committee of the New York Academy of Medicine:

"That all adenoid and tonsil operations on children should be done under general anesthesia, and

"That hospitals where adenoid and tonsil operations are performed should be equipped to keep their patients in the wards for at least eighteen to twenty-four hours after operation."

The section on laryngology and rhinology of the New York Academy of Medicine has rendered a majority opinion that "both tonsillectomy and tonsillotomy are operations requiring the facilities of a hospital."

According to these requirements, dispensaries are not qualified for this work, as out-patient practice does not call for bed care. Nevertheless, two dispensaries were found equipped with bed wards. At six dispensaries these operations are performed under general anesthesia, and no better provision made for the after-care of patients than allowing them to rest for an hour or longer, reclining on benches or sitting up in chairs. Following are statistical summaries showing the manner of operation with reference to the use of anesthetic in hospitals and dispensaries, post-operative care, and ward accommodations provided for this purpose:

[1]For an account of the work of the health department's clinics see Free Municipal Clinics for School Children, by J. H. Berkowitz, No. 41, reprint series, Department of Health of the City of New York; also Clinics for Necessitous Children, by the same author, THE MODERN HOSPITAL, April, 1916, Vol. VI. No. 4, pp. 290-292.

TABLE II. GROUPING ACCORDING TO CLINICAL METHODS AND FACILITIES

A. Manner of Operation.

	Hospitals	Dispensaries[1]
All operations under general anesthesia	42	6
Either general or local anesthesia	4	5
No anesthesia	4	3
General, local, or none (no fixed rule)	2	1

B. Post-Operative Care

Patients kept eighteen to twenty-four hours	50	2
Discharged soon after operation, varying from one to three hours	2	5

[1]Including out-patient departments of general hospitals.

C. Ward Facilities Provided

	Municipal hospitals	General hospitals	Special hospitals
Separate ward for nose and throat cases	1	3	5
Children's general wards	5	27	1

D. Provisions for Resting in Dispensaries

Special resting room, hospital out-patient departments	5
Special resting room, dispensaries	2
General resting room for all patients, dispensaries	3

The use of anesthetic and the after-care given depend in some instances on the ability of the patient to pay therefor. Thus, in some hospitals where operations are performed according to the highest requirements and the necessary post-operative care given in the hospital proper

Fig. 1. Why the clinics are needed. These are typical of the thousands of school children suffering from adenoids.

if the patients can afford to pay a minimum fee, the out-patient departments of these same hospitals will operate either with or without anesthetic and provide no after-care whatever.

CHARGES FOR OPERATION

The minimum fee usually charged by a surgeon for an operation on adenoids or tonsils to a private patient is $25, though it is possible that some charge less, a fact which it would be difficult to ascertain with reference to a sufficiently large number to establish any general rule. We are concerned, however, with the class of patients who, being unable to pay the customary fee, must resort to the free clinics or dispensaries. In cases where a dispensary accepts the poverty plea, either the usual dispensary fee, varying from ten cents to twenty-five cents, is charged, or even this is waived. Then there are the cases of persons whose incomes, while keeping them ordinarily out of the dependent class, are not sufficient to meet the emergencies requiring expenditures for medical care. Such persons are sometimes able to pay a fee ranging from $1 to $5. They are at a disadvantage in going to a dispensary which is not properly equipped for this sort of work when there are hospitals with adequate facilities and approved methods, but charging no more than some dispensaries do.

Data obtained from thirty-eight hospitals in the city of New York showed the range of fees to be from $1 to $5, with one exception, where the minimum fee for the operation is $5 and an additional charge of $1.50 is made for each day of hospital care. The fees at some of the institutions are designated variously as being either for operation and ward care, "for bed and board," or covering the cost of the case to the hospital on the basis of a fixed per capita cost per hospital day. In several places the

Fig. 2. What the clinics did for the children shown in Fig. 1. Relieved of the handicap, they are healthier, happier, and brighter.

fee is determined by whether anesthetic is used, one hospital charging $5 for an operation under general anesthesia and $2 when local anesthesia is used. Another institution offers operations free to the needy, without regard to the use of anesthetic, but charges $2 "for lodging." Curiously enough, one hospital making no charge for the operation properly done under anesthesia, but charging $1.75 for "bed and board" in the hospital proper, asks $1 to $2 for an operation in its out-patient department without anesthesia and without bed care. The following table shows the number of hospitals and dispensaries grouped according to the scale of fees:

TABLE III. MINIMUM FEES CHARGED FOR OPERATION

Minimum fee	Hospitals	Dispensaries
$5.00	10	1
3.00	4	2
2.50	5	..
2.00	4	2
1.00-$2.00	15	5

Practically all the private hospitals and dispensaries claim that the usual fees are waived in deserving poor cases.

PAYMENT BY THE CITY

Twelve of the hospitals state that they report the dependent tonsil and adenoid cases to the Department of Public Charities in order to receive compensation from the city. Five hospitals neither investigate nor report to the city these cases. Dispensaries receive annually from

the city of New York a gross allowance of $250 in lieu of payment for any specific number of free treatments that are given.

Since January 1, 1914, the Department of Public Charities has been paying private hospitals at the rate of $1.25 for each tonsil and adenoid operation performed by them if investigation established the patient's inability to pay a minimum fee. This payment is intended specifically to cover one day of hospital care. Every case reported by the private hospital to the Department of Public Charities for payment by the city is investigated by examiners of the Bureau of Dependent Adults. An important element in the agreement existing between the Department of Public Charities and the private hospitals is the "emergency" of the cases reported. Under a strict interpretation of this term the department might properly disapprove the majority of, if not all, the tonsil and adenoid cases reported by the private hospitals. It is because the

Fig. 3. Waiting room of a children's clinic. Adenoid and tonsil cases can be readily distinguished from the others—listless, heavy faced, some with open mouths and some with undeveloped chins.

department has waived this important condition governing the care of dependent cases that the hospitals have agreed to accept this rate of payment, which applies to all surgical cases, with the limitation in this instance of allowance being made for only one day of hospital care, regardless of the actual length of time spent by the patient in the institution. This rate is new, and represents an increase of 15 cents over the former rate. Hospital officials nevertheless complain of this compensation, alleging that in some cases patients have received more than one day of hospital care.

In order to test the soundness of this claim, an examination was made of the records of 302 nose and throat cases that were reported by private hospitals to the Department of Public Charities in the course of three months. The length of stay in the hospitals of these cases ranged from one to sixteen days, giving an average of two dasy per case.

The fact that 60 percent of the cases received but one day of hospital care is probably more conclusive than the average number, for the reason that the cases reported to have stayed in the hospital more than three days were from general hospitals treating various acute diseases, and in all probability the operations for tonsils and adenoids were performed on patients confined in these hospitals with some more serious ailment.

TABLE IV. NUMBER OF PATIENTS AND DAYS OF HOSPITAL CARE REPORTED BY PRIVATE HOSPITALS TO DEPARTMENT OF PUBLIC CHARITIES

Days	Cases	Days	Cases
1	123	7	1
2	24	8	1
3	11	9	2
4	6	11	1
5	3	16	1
6	1		

REASONS FOR DISAPPROVAL

The investigations made by the examiners of the Department of Public Charities determine whether the city is to pay for the cases treated at private hospitals. The reasons for rejection, eliminating those applying to some specific classes of patients, may be any of the following: unknown at residence given, insufficient history, ability to pay, previous arrangements, not emergency, refused treatment, nonresident. As has already been stated, the non-emergency of the tonsil and adenoid cases is waived by the department.

Out of the 302 cases the records of which were analyzed, only thirty-two, or about 10 percent, were not approved for payment.

TABLE V. REASONS FOR REJECTION AND NUMBER OF CASES REPECTED

Ability to pay	12
Paid	3
Insufficient history	2
Not found	7
Nonresidence	1
Not stated	7
Total cases rejected	32

The ability to pay is measured by the extent of the weekly income of the family, as allowing or not the expenditure of $1.25 for an operation. Investigators found

Fig. 4. Doing the work properly. Operations for tonsils and adenoids should be performed under general anesthesia, as no child ought to be subjected to the pain and shock which are otherwise inflicted.

in some cases that patients had paid for the operation after the hospital reported the case to the charities department.

COST OF CASES AT PRIVATE HOSPITALS

It will, no doubt, be found interesting to compare the cost of maintenance per day of patients in private hospitals with the fee received from the Department of Public Charities for one day's care of surgical cases. Strictly speaking, the adenoid and tonsil cases must be considered as one-day cases, since the general rule as well as the practice is to discharge the patients twenty-four hours after admission, a longer time elapsing in but very few cases.

For the purpose of this cost analysis, the financial reports of fifteen hospitals have been examined. The accompanying table gives the cost per day of ward patients. It will be seen that the lowest figure is $1.10, at St. Mary's Hospital for Children, and the highest $2.68, at New York Hospital. The average for the fifteen institutions is $2.17.

TABLE VI. COST OF MAINTENANCE PER PATIENT PER DAY AT PRIVATE HOSPITALS IN NEW YORK CITY

Mount Sinai	$2.17
New York	2.68
St. Luke's	2.17
Post-Graduate	2.65
German	2.47
Roosevelt	2.25
Lebanon	2.02
Beth Israel	2.16
Polyclinic	2.53
Sydenham	2.02
French	1.67
St. Mark's	2.28
St. Mary's	1.10
New York Eye and Ear Infirmary	2.00
Manhattan Eye, Ear, and Throat	2.45

Average for all hospitals, $2.17.

COST OF CASES AT MUNICIPAL HOSPITALS

Apparently it costs the city of New York less to maintain its chain of public hospitals than it costs to maintain the private institutions, as will be seen by comparing the figures in the following table with the preceding one. The financial report for Bellevue and Allied Hospitals for the year 1914 (the latest available) shows an average for the four hospitals of $1.92 per patient per day, "including all expenses paid by Bellevue and Allied Hospitals, but not including cost of electricity or gas, printing, and stationery, furnished by the Board of City Record" (Column A). Excluding repairs, replacement and extraordinary expenses, the average cost per patient per day was $1.86 (Column B).

TABLE VII. COST OF MAINTENANCE PER PATIENT PER DAY AT MUNICIPAL HOSPITALS IN NEW YORK CITY, WITH (A) AND WITHOUT (B) EXTRAORDINARY EXPENSES

	A	B
Bellevue	$1.75	$1.64
Gouverneur	1.92	1.82
Harlem	1.94	1.83
Fordham	2.07	1.96
Average cost per patient per day at four hospitals	$1.92	$1.86

ARE HOSPITAL AND DISPENSARY PRIVILEGES ABUSED?

The charge is frequently made, more often than not offhand, that large numbers of persons receive the advantages of hospital and dispensary treatment who are not entitled to them and are financially able to pay for private medical and hospital care. In the course of these investigations the question was put to a number of hospital officials who were considered qualified, by experience, judgment, and opportunity for observation, to speak with authority. The opinion prevailed that such charges are not warranted by the very limited number of persons who succeed at times in abusing dispensary privileges. Although the majority of institutions do not make any thorough investigations of applicants before giving treatment, occasional investigations made by various institutions have borne out the judgment of dispensary staffs to pass on the eligibility of applicants for free treatment. On this point the report of the Committee on Inquiry into the Departments of Health, Charities, and Bellevue and Allied Hospitals in the City of New York, appointed by the Board of Estimate and Apportionment, offers some convincing data.

"The enormous attendance at many of our leading dispensaries," the report states,[1] "has frequently been cited as proof of the widespread abuse of dispensary privileges on the part of people who can afford to pay for medical services. It is more than doubtful if there is much to sustain this view. At a recent convention of the American Hospital Association in Boston the president of the Association vigorously expressed the opinion that this alleged dispensary abuse did not deserve much consideration. Many other experts in dispensary work are of the opinion that the term 'dispensary abuse' ought to be construed to mean abuse of patients on the part of the dispensary, and not abuse of dispensary privileges on the part of patients." In support of this contention, the report cites the facts disclosed in an investigation of one of the large hospitals.

SHOULD THE CITY DO THIS WORK?

As previously shown, the city of New York pays the private hospitals for tonsil and adenoid operations on the basis of daily maintenance, as it does for other surgical cases. The compensation, although little more than one-half of the average cost of a ward case at the private hospitals, is not much less than the cost at city hospitals. Objection has been raised to the subsidizing of private hospitals by the municipality. On the other hand, the private hospitals are not content with the rate of compensation for this particular class of cases. The very large number of children's tonsil and adenoid cases makes it quite impossible to care for them all in the city hospitals, and, since the private hospitals are ostensibly philanthropic institutions, such an arrangement as the present one should be regarded as equitable.

Since the closing of the health department clinics for school children, efforts have been made to transfer to the city hospitals as much as possible of the work which would otherwise have been done by these clinics. This plan went into operation in January, 1916, with the result that there has been a constant and rapid increase in the number of operations performed for tonsils and adenoids. It is expected that the present year will show a threefold increase over the previous year's record in this department. The following table is a fair indication of the rate of increase at the four hospitals, giving the average number of operations per week:

TABLE VIII. INCREASE IN TONSILLECTOMY CASES AT BELLEVUE, GOUVERNEUR, HARLEM, AND FORDHAM HOSPITALS, FOR FIVE MONTHS, 1916[2]

Month	Weekly average number of cases
January	38
February	38
March	51
April	61
May	106

Coincident with the question of dispensary abuse is that of pauperization. Again the conclusions of the Board of Estimate and Apportionment Committee, which made the inquiry already cited, may be accepted:[3]

"In regard to the pauperization of those receiving free benefactions, it must be said that there is an important distinction between the rendering of medical service and the bestowal of material goods. There is some reason in the argument that free gifts of food and clothing increase dependence, since the individual should be able to provide

[1] Report of the Committee on Inquiry into the Departments of Health, Charities, and Bellevue and Allied Hospitals in the City of New York, appointed by the Board of Estimate and Apportionment. City of New York, 1913, p. 477.

[2] Advance report through the courtesy of the secretary of the board of trustees of Bellevue and Allied Hospitals in the city of New York.

[3] Report of the Committee on Inquiry into the Departments of Health, Charities, and Bellevue and Allied Hospitals in the City of New York, appointed by the Board of Estimate and Apportionment. City of New York, 1913, p. 478.

sustenance and shelter for himself and his family. Anyone who cannot do this is rightly considered a failure, but this does not apply to cases of disease. Sickness and injury are often due to causes beyond the control of the individual, and the family budget that is just adequate to provide for the necessities of life has no margin for the proper treatment of disease. A family of six may be independent on an income of $12 or $15 a week, and yet would not be able to meet the added expense of sudden sickness. The city's free medical service would not break down the independence of such a family; rather, it prevents dependence while removing the cause and reestablishing the family on a self-supporting basis. It can hardly be asserted that the family would relapse into dependence by willfully inviting sickness, and, so far as free medical service safeguards the community and promotes social efficiency, it is a legitimate part of municipal expenditure."

INTERIOR DECORATIONS IN HOSPITALS

A Plea for Relief From the Deadly Sameness of Treatment in Corridors, Wards, and Rooms

Is such a thing desirable and is it feasible? This double-barreled question will most likely be answered in the negative by a large majority of those engaged in hospital work. Doctors, nurses, and hospital superintendents will express the opinion that interior decorations in a hospital would be subversive of the sanitary arrangements deemed necessary in medical practice; also, that their introduction would tend to confuse the minds of patients. Such objections would be, however, only supposititious, for little, if anything, in the way of decorating hospital interiors has thus far been attempted.

The writer of this article, although a layman in hospital affairs, ventures to express the opinion that it is possible to make certain rooms in a hospital artistic and attractive without in the least interfering with the things regarded as necessary for perfect sanitation. He also believes that such rooms would be conducive to the welfare of the patient.

A vast majority of cases of illness are treated in homes in which no change in the arrangement of fittings and furnishings is considered necessary for the proper treatment of the patient. Doctors and nurses come and go, treating their charges in the same surroundings as when the occupants are well. It will not be controverted that the home is the best place for a sick person to be doctored. The things he has assembled and loves for their individual merit or their associations contribute much to his comfort and enjoyment, and are efficient aids in his recovery. Love of the beautiful is in the heart of every man, no matter how poor. Should not the hospital, therefore, be made attractive, so that men and women, and children, too, when obliged to go there, may have something besides a cold sepulchral glare confronting them?

A hospital, to the average person, is a repellant institution. He goes there with gloomy forebodings—with his mind dwelling altogether on his physical condition. He leaves his home, humble though it may be, with all its little personal touches, and is brought into a great barnlike structure without a single adornment. There is nothing there in the way of art with which to feed his hungry soul. How great must be the longing of many a poor soul to have near him some of the things he has had to leave behind. It would seem that something might be done to beautify the room and wards of a hospital, so that the patient would retain pleasant memories of his enforced stay there.

The average hospital is, so far as the interior is concerned, a forbidding sort of place. The exteriors seem to have been the only part where the architect was allowed to display any artistic features; for the inside only the bare openings, with an apparent studied evasion of architectural ornament. Generally, no attempt has been made to get a pleasing shade of color for the painted walls; everything sacrificed for utility; furniture unshapely, and all other inanimate objects void of all artistic merit.

Is it necessary, in order to combat disease, to eliminate all moldings, projections, and ornamentation in the interior architecture of a hospital? Articles of adornment, perhaps, are less guilty of wrong-doing than some of our doctor friends would have us think. Twenty or thirty years ago a few influential members of the profession in the city of Boston conceived the notion that many cases of illness were caused by the presence of arsenic in wall paper, and they succeeded in having a state law passed prohibiting the sale of wall paper that contained arsenic. Now, it does not seem reasonable that particles of arsenic sometimes found in a wall paper could be active enough to extract themselves from the paper and enter into the system of the occupant of the room in sufficient quantity to poison him. It is doubtful if there was ever a well-authenticated case of arsenical poisoning contracted in any such manner. The diagnosis of one notable case in which it was claimed that the man was made ill through sleeping in a room with arsenical wall paper was proved to have been incorrect by an autopsy.

It is, of course, conceded that there should be no lavish display in the treatment of hospital rooms. Discretion and discrimination should govern our efforts in this as in every department of life. The character of the hospital will necessarily be of the first consideration. Those devoted to surgical cases should be treated differently from those established for diseased patients, while those for children should be applicable to the little ones.

Waiting rooms, especially, should have attractive walls, floors, and furnishings. It is there where sorrowing ones gather for treatment or to visit their friends and relatives. An artistic interior would do much toward soothing their anguish. Rooms for private patients in all hospitals, and especially those for maternity cases, should be made as homelike as may be consistent with the requirements of modern therapeutics.

The writer has no specific suggestions to make for introducing interior decorations in a hospital. He surmises that it would be largely a matter of experimentation. Walls might have mural decorations or simple stenciling, or they might be hung with a washable sanitary texture, of which there are good designs. Pictures might be framed and hung in a way that would not be a menace to health as dust catchers. Windows could be draped in smooth-finished materials easy to launder. Furniture should be designed in a characteristic form, and constructed, decorated, or finished in a manner consistent with all sanitary requirements. Doubtless there would be many other things that could be treated in an artistic way.

This article is written not so much for direction as a plea. If it should meet with the favor of those who contemplate the erection of a hospital so as to cause them to consider, even in a small way, the desirability of incorporating artistic features for the interior, it will have served its purpose.

Art is no longer bound up in the works of the painter of pictures or the sculptor of marble; it is coming to be more and more a recognized factor in the makeup of many useful articles. For the good of humanity, it should be considered in the fittings and furnishings of a hospital as well as any other building where human beings are to be housed and cared for. C. Victor Twiss, New York.

PREVENTION OF BLINDNESS
MATERNITY

Conducted by CAROLYN CONANT VAN BLARCOM, R. N.,
Secretary National Committee for the Prevention of Blindness; Chairman Committee on Prevention of Blindness and Midwives, National Organization for Public Health Nursing.

Please address items of news and inquiries regarding Prevention of Blindness—Maternity to the editor of this department, 130 East Twenty-second street, New York City.

Motion Pictures and Eyestrain

BY GORDON L. BERRY,
Acting Secretary National Committee for the Prevention of Blindness.

The past decade has witnessed the growth of an American industry, the development of which has been so phenomenal as to be almost unbelievable. The industry referred to is that popularly known as "the movies," and, although scarcely more than ten years ago one might have looked in vain for a theater devoted to the silent drama except in our larger cities, today there is hardly a single backwoods community without a motion picture theater readily accessible to its inhabitants. From a very modest start in the United States, popular at first in the far western states, this industry has reached such a point of popularity that it was recently listed as our fifth largest industry. Millions have been spent in its development, and multimillionaires created almost overnight by the receipts from tremendous audiences which daily and nightly fill to capacity even the largest auditoriums where the filmed drama is displayed. There are more than 25,000 theaters devoted to motion pictures, and it has been estimated that there is an average daily attendance at these theaters of more than 20,000,000 men, women, and children.

The sudden popularity and development of motion pictures in this country has created many new problems, among the most important of which have been those relating to health. Whereas attendance at a theater used to be a somewhat rare occurrence with most families, due not only to the scarcity of attractions, but also to the expense, we now find it possible, through the very modest entrance fee required at most motion picture houses, for the members of any family to be regular patrons once or twice a week or even more frequently, and there has been considerable question and study as to the effects on health of such constant association with crowds in such poorly ventilated and poorly lighted auditoriums as are frequently provided by the managers of motion picture houses in both the larger cities and in the small communities. It is in regard to one phase of the health question that this article deals—the one phase regarding which there has been perhaps the most interest evidenced by the general public.

"Will frequent attendance at the motion picture theaters affect my eyesight?" Probably no question has been put to oculists and physicians generally so many times during the past decade as has that. Generally speaking, the answer is: 1, motion pictures, with defects of photography, manufacture, and projection apparatus, *may* prove injurious to eyesight; 2, eyestrain caused by viewing motion pictures may indicate a subnormal condition of the eyes, which should demand immediate investigation on the part of your physician.

While there has never been as extensive a study made of this subject as might be desired, there have been occasional investigations by interested ophthalmologists, illuminating engineers, and others, and certain conclusions have been developed which time is proving logical, and which are at present generally accepted. These scientific studies have been in large part based on certain principles relating to illumination and eyestrain, and embodying the following chief points as possibly productive of a deleterious effect on vision:

1, the effect upon the eye of glare from a poor motion picture screen, or as the result of improper radiation from the screen; 2, the general illumination of the auditorium; 3, the position from which the motion picture is observed; 4, defects in the pictures themselves, such as unsteadiness due to poor or careless direction in acting, bad photography, film blemishes, or improper projection; 5, the effect upon vision of constant, prolonged attention.

Taking up these points in the order mentioned, we find, first, that there are at present two distinct types of screen, one consisting of a smooth surface dressed with aluminum powder and lacquer, the other being a large screen of plate glass, the back of which has been painted with the whitest and most opaque paint obtainable. The first of these is, of course, the least expensive, and, unless the surface is pebbled or roughened, the picture thrown thereon is not entirely discernible to a spectator who may be viewing the picture from the far side of the auditorium. Furthermore, due to the metallic tint which usually results from such preparation of the screen, there may be produced a considerable amount of color distortion, and, unless the screen has been properly mounted in a perfectly flat plane, there will result a serious glare. Experts appear to agree that the plate glass screen is the ideal reflecting surface, and is productive of far better pictures, without glare and with the minimum of distortion apparent.

Radiation of light from the surface of a glass screen should not in itself prove any menace to vision, as the intensity of illumination on the average screen is far less than is generally supposed. Through the lens system generally in use, a 10,000-candle-power brilliancy at the point of contact of the carbon arcs back of the film in the projecting machine transmits but .0022 candle-power of light upon the screen itself.

The auditorium should be as light as may be consistent with securing satisfactory detail in the picture. All sorts of light sources which might cause glare should be eliminated, especially chandeliers, wall brackets, orchestra lights, etc., which may fall within the spectators' range of vision. Illuminating engineers recommend that the intensity of illumination should be graduated from the screen outward toward the rear of the auditorium, with the greatest amount possible at the back, and that the indirect system of lighting should be used, as it best prevents glare. In spite of the fact that the light intensity on the screen is in itself small, yet, in contrast with the surrounding illumination in the auditorium, it may appear very great. A good example is provided by comparing the apparent brilliancy of an incandescent light seen (1) in a room painted black throughout, (2) in a room where light walls prevail, (3) in broad daylight, each surrounding condition providing the reason for the decrease in glare from the light source.

The position from which the spectator views the motion pictures is a matter of considerable importance. The nearer to the center of the house one sits, the better the picture will appear. In order to avoid eyestrain, one should never be nearer to the screen than twenty feet, and the farther back the better. Seats placed far to the side should always be avoided, as the pictures view from the sides are almost certain to appear distorted. Many builders have taken this item into consideration when drawing plans for motion picture theaters.

Unsteadiness in the pictures due to bad "direction" in the acting, poor photography, film blemishes, and poor projection are all causes of eyestrain, and are inexcusable, because entirely preventable. The rapidity with which changes occur on the screen, producing rapid, jerky motions of the picture, may call for a greater agility in the process of focusing the eye than nature can produce. Inexperience or lack of care on the part of the camera man may result in certain sections of a photo drama being out of focus, which always proves most trying to the spectator. Films should not be used after they have become scratched and "rainy." The life of a film in constant use is but a period of a few months even under best conditions, and it is likely to show deterioration after but a few showings if operators are not careful in handling, packing, shipping, etc. The showers of light spots produced by scratched and wornout films cannot help but cause eyestrain, which may show up in headaches the following day or even result in permanent injury to the eyes. "Poor projection" is responsible for many deleterious eye conditions. In order to produce that steadiness which is most desirable, the projecting machine should be mounted on a concrete, or some other equally rigid, foundation.

More serious than any of the foregoing possible causes of eyestrain, and one which is most generally apparent, is the "flicker," which unfortunately will be readily noticeable in most of our motion picture houses. It is due partly to faulty mechanism of the projecting apparatus, and, again, to the failure of the operator to properly adjust his machine. Unless the shutter is adjusted to the finest point, so that the tiny segment of film which separates the little pictures is accurately cut out at the proper moment, flicker will result. It is a fault which involves the basic principle of motion picture projection, both mechanical and including the personal equation.

The effect of flicker is confined to the involuntary muscles which control the action of the iris. The natural action of the iris is to close very rapidly and open slowly, regulated by the amount of light which is seeking entrance to the part of the eye which will, in its turn, transmit the image to the brain, and thus form the picture in the mind. When looking at a motion picture, the pupil is contracted to a somewhat smaller opening than when viewing a still picture having the same illumination, and, when the flicker in the motion picture is pronounced, the pupil of the eye can be seen to tremble slightly as if attempting to follow each fluctuation of light. This may lead to overstimulation and permanent injury. One investigator, in commenting on this particular point, concludes by stating that this constant contraction and dilation should strengthen the muscles involved, and so eventually develop them to the point where strain would not be caused. From this opinion, however, leading ophthalmologists differ, and believe that the fatigue caused by overstimulation due to flicker frequently passes beyond physiological limits and must eventually produce deterioration.

Dr. Ellice M. Alger, of New York, in commenting on this point, writes as follows: "The whole process of contraction and dilation of the pupil normally requires a certain amount of time, and the rapid variation in light intensity which produces flicker applies and removes the muscular stimulus more rapidly than the muscles can respond, so that the result is a state of constant oscillation which is not synchronous with the actual variations in light intensity, and which brings about fatigue and a state of nerve exhaustion from the too rapid discharge of nerve impulses. Actual time measurements of these pupillary fluctuations have been made, and it has been shown that, when the eye is kept in the dark and illuminated by a flash of light, the reaction of the pupil is delayed for something like half a second. The contraction follows, and the pupil does not begin to dilate until a lapse of about ten seconds. Such movements are altogether too slow to follow the flicker of a motion picture which has a rate of about ten per second.

Finally, the effect of constant, prolonged concentration must be considered as a possible cause of eyestrain from the motion picture. The statement has occasionally been made that motion pictures should be no more productive of eyestrain than viewing the constantly changing panorama of country from a train window. Such a statement is doubtless based on the belief that, if our eyes do not tire when watching scenery change at the rate of about 3,500 feet per minute (the train's speed being forty miles an hour), they should not tire in watching a picture change at the rate of but seventy feet per minute (the average speed at which films are run). The theorist has evidently failed to take into consideration that the foreground of nature is in colors least apt to tire the eyes, and, moreover and more important, there is a constant unconscious relaxation of the muscles of the eyes. On the other hand, in order to follow the rapidly changing story of the motion picture, it is essential to miss nothing. Resting the eyes for even a minute may lose an important clew in "The Mysteries of Myra," "The Perils of Pauline," et al. As many of the popular films of today are run in five reels, each reel of 1,000 feet, there is demanded constant concentration of the eyes upon the flickering surface for a period of from an hour to an hour and a half. To offset the fatigue caused by this concentration, every spectator should demand, and theater owners should make every attempt to provide, the best in screens, surrounding illuminating, seating arrangements, film, and projection. Otherwise there can be no doubt that the "movies" will be an increasing cause of affections of the eye. Very few people have perfectly normal eyes. Most of us are either farsighted, nearsighted, or astigmatic, and many have muscular defects as well. Bearing this, also, in mind, it may readily be seen that the element of continued intentness, in large measure, prevents a complete muscular relaxation, so essential to the well-being of the eyes.

In summing up the various points brought out in the foregoing paragraphs, the reader will have noted that, if conditions are as nearly ideal as they can easily be made through the installation of lighting and projecting improvements in all motion picture houses, there will not be much danger of serious eye fatigue as the result of moderate attendance at one's favorite motion picture theater. If, however, the pictures as produced under the best conditions bring about evidences of eye fatigue—such as headache, smarting or itching of the lids, sensitiveness to light, excessive flow of tears, or if circles of light seem to appear on the screen—one should lose no time in consulting an oculist.

Dr. A. W. Jernigan has recently opened a private hospital at 1320 Gaines street, Little Rock, Ark.

THE MODERN SANATORIUM

Conducted by ALBERT WARREN FERRIS, A.M., M.D.,
Saratoga Springs, New York.

Please address items of news and inquiries regarding The Modern Sanatorium to the editor of this department, Saratoga Springs, New York.

The Value of Exercise

The amateur athlete, returning home flushed with victory, or gratified with his success in setting a new mark on the record, perhaps carried on the shoulders of vociferous college mates, sails for a time "upon a sea of glory." Admiration, adulation, the pride of achievement, the solid satisfaction of success, are very sweet. But the cup-winning emotion thus experienced by the man of muscle is but a culmination, a climax, a high-water mark. The feeling of "condition," of "fitness," is a daily reward for the individual who keeps his muscles supple and elastic, well-nourished and firm. To be in trim, to be physically capable, is so great a daily joy that King David, the Psalmist, uses the simile, "who rejoiceth as a strong man to run a race."

The joy comes not from muscular strength alone, but from the impetus to general health that regular exercise provides—from the zest of healthy existence. Digestion, nutrition, circulation, innervation, cerebration, all demand exercise. Both in the preservation of health and in the cure of disease, exercise is a very important element of medical regimen.

Passive motion, massage, and mechanical vibration are very valuable, and in some cases are the only possible employable means. The Swedish and Zander machines furnish kneading or oscillation motions which not only arouse sluggish circulation in the groups of muscles to which application is made, but also secure the involuntary contraction of antagonistic muscular groups, which resist, oppose, or balance instinctively. These machines are all outgrowths of the genius of Pehr Henry Ling, of Sweden, the pioneer teacher of exercise.

But nothing can compare closely with out-of-door daily employment of a large part of the entire bodily musculature. Even if limited to gymnastics, when denied opportunity for sports, the exercise should be taken out in the air.

Dr. James Mackenzie, of London, writes: "It may be laid down as a general law that every organ in the body is benefited by the exercise of its functions. The benefit does not accrue merely by the exercise at a low level, but by periods of increased effort followed by periods of comparative rest."

Dr. Arnold Lorand, of Carlsbad, Austria, writes, after recommending exercise of various forms and degrees to seekers after health: "The great advantage of the various kinds of sport and of walking, climbing, and running exercise is that several other agencies can be combined with them that are very important in the treatment and prevention of the effects of old age. These are fresh air and sunshine. We think that the combination of the three agencies—exercise, fresh air, and sunshine—is the best and most necessary means for the preservation of youthfulness and for the prolongation of life."

Dr. E. Heinrich Kisch, of Marienbad, Germany, in giving general advice to invalids taking the "Kur," writes: "Moderate exercise and walking alone is what leads to the hoped-for result; one must never walk till weariness sets in."

Dr. Louis Faugères Bishop, of New York, writes in his book on the treatment of arteriosclerosis: "The circulation is dependent upon the proper accomplishment of the functions of the lungs, stomach, intestines, liver, and kidneys. What is the best stimulant to the lungs? Exercise. What most promotes the tone of the digestive organs? Exercise. What best overcomes a torpid liver? Exercise. What is the best diuretic? Exercise."

In a strikingly interesting and valuable brochure entitled, "The Factor of Safety," Dr. John H. Kellogg, the head of Battle Creek Sanitarium, writes: ". . . Those who neglect to maintain heart and lung activity by daily bodily muscular exercise out of doors, . . . such persons are rapidly using up their safety margin, which, when once lost, can never be regained."

A form of exercise which is of great value to certain carefully selected cases of heart disease consists of walking up increasing grades, according to a schedule prescribed from day to day by the supervising physician. These exercises are emphatically for the patient whose heart is in good working order, and for him alone; they constitute a variety of training at the end of treatment, and put the convalescent patient on his best plane. This system of heart and arterial exercise was devised by Stokes, of England, and elaborated by Oertel, of Germany, and is often called the Stokes-Oertel hill-climbing system, or Terrain-Kur. Few medal winners in running competitions experience greater satisfaction than that described by formerly feeble patients, to whom a level half-mile was once a formidable test. Perhaps pale, panting, suffering palpitation, and showing signs of great fatigue, they struggled through the brief distance before treatment, while after the close of their series of baths, diet, exercise, and rest, they scale the prescribed acclivity with delight, glowing with satisfaction, and sigh for higher peaks to conquer. Opportunity for such after-training is provided, among a few places, at the Glen Springs, Watkins, N. Y., in the pine woods and on the sunny slopes of the hill adjacent to the establishment. They will also be made available in Geyser Park, Saratoga Springs, N. Y., before long.

Many of us are so limited in our daily lives as to be unable to devote any time to out-of-door exercise except on Sundays or during the vacation period. But we can all take fifteen minutes a day, whether young or old, half-ill, driven by duties, or crushed by circumstances. We cannot afford not to exercise if we aim to perform our duties or to cope with circumstances, or even keep in ordinary condition to withstand disease.

J. P. Müller, a Danish lieutenant of engineers, who weighed four pounds at birth and struggled through a puny childhood, became a noted athlete of great muscular power, a model of health, and physically the most perfect man the Danish painter, Carl Bloch, ever saw, as he averred; and this through systematic exercises, which he advocates, and which may be taken in fifteen minutes daily. Without apparatus, without more instruction than his physician gives, the daily physical culture routine of the citizen may be pursued. Naturally, it is hard to go through a schedule of exercises in cold blood and alone,

while in groups or classes in a sanatorium interest is keen, and enjoyment is maintained easily.

But a simple list of maneuvers can be negotiated by everyone who has regard for his vigor. In these days of prolapsed abdominal walls, intestinal toxemia, stasis, and mineral oil, the most important single exercise is that for the muscles of the abdomen, and incidentally for the circulation of the abdominal viscera. Of course the bedroom window has been open all night, winter and summer. If there are more windows, open them also. Lie upon the back on the floor, with the toes hooked under the bottom or side of the bedstead, and rise to a sitting posture four times. Slide away from the bed and grasp each knee in turn, doubling it firmly on the abdomen four times, while still on the back. Then embrace both knees and flex both together on the abdomen four times. Then repeat all these exercises. Rest. Next, place the locked hands under the neck while lying on the back, and arch the body upwards so that the frame rests only on shoulders and heels. Do it four times and repeat after a brief rest. Stand with feet turned out and heels touching, hands placed on hips, chest up, and bow rapidly and vigorously to the waist level six times. Then tilt to left six times, then to right six times, then bend backward as far as possible six times. Still in same position, rise on toes, head and chest up, ten times. Then rise on heels ten times. Spread the feet a little apart and sink until squatting on the heels six times, springing up to the erect position vigorously. Standing with heels together, toes turned out, advance the right foot diagonally, right knee bent, raising the arms extended to level with shoulders, the while inhaling deeply; restore the foot and exhale slowly as the arms are dropped. Perform similar motions with left foot advanced; then with right foot placed behind diagonally, and then with left foot also so placed. Repeat four times. This will give you a start for the day, which, together with the daily and never omitted bath, will instill vigor and awaken circulation.

Better still, of course, is to take a shower bath while warm and just out of bed, dress properly and proceed out of doors, to take rapidly a set of light exercises like those led by the physical directors of the Battle Creek Sanitarium, where a hundred or more guests and patients assemble every morning at 7 o'clock. In rapid succession are repeated arm, wrist, hand, and shoulder movements; breathing exercises; movements for feet, legs, and thighs; hopping, running, and jumping; stepping, stepping with arm movements, "mowing," and more breathing exercises with arms rotating.

Together with increased bodily function and augmented health, exercise brings with it agility, confidence, and grace.

ALBERT WARREN FERRIS.

An annex to the Wilkes-Barre City Hospital, Wilkes-Barre, Pa., to be devoted exclusively to private patients, has recently been completed. The building is a three-story structure of red brick, arranged to accommodate 40 patients, and the cost, including equipment, is understood to be approximately $200,000. All of the modern comforts and conveniences for patients usually afforded by first-class private hospitals have been provided, and the equipment for treatment is complete and up-to-date. All of the rooms are large and cheerful, and there are suites of three rooms, elegantly furnished. A feature of the rooms abutting on the corridors are the double doors, consisting of the usual door and one with a lattice arrangement covered with muslin, which stands outside and serves as a screen for the patient when the main door is open. The maternity section of the annex is so placed that it may be practically shut off from the rest of the building. Plans for the structure were drawn by Architects Sturdevant & Poggi, of Wilkes-Barre.

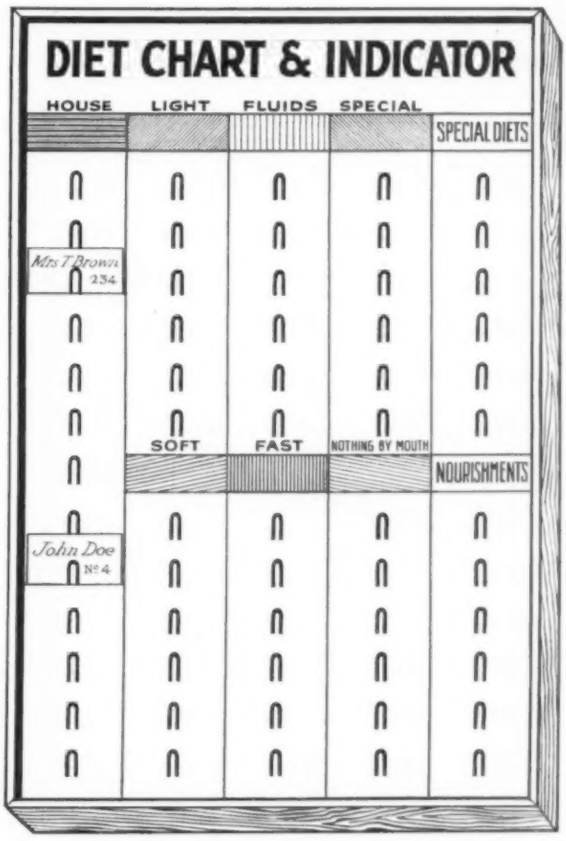
A CONVENIENT DIET CHART

Brooklyn Hospital Has Devised Colored Chart Which Doctors and Nurses Have Found Practical

Even though each hospital has its own method of serving diets, a description of one which has proved most satisfactory may be of interest. In the following system each diet is indicated by a color, as green, house or full diet; blue, light; yellow, soft; white, fluids; lavender, fast or fluids without milk; red, special—nephritic, diabetic, etc. On small cards corresponding in color to the diet ordered is written the patient's name. These cards are placed on the patient's food trays before meals are served and remain there until the tray is placed before the patient.

The illustration shows the way the diets are divided under their distinctive colors. When a patient is admitted and diet ordered, the patient's name is written on a white card and put under the proper heading. If the diet is changed, all that is necessary is to transfer the card to the new heading. A space is provided for "nourishments" and "nothing by mouth."

This has been found helpful to the doctors also, as it is kept at the head nurse's desk, except when meals are being served, and at a glance they can ascertain each patient's diet. The chart is made of a light gray cardboard, divided into the spaces required. Oblong clips are put through, pointing upwards; these are fastened flat on the back, with strips of adhesive. The cards slip in easily and are held securely.



Brooklyn Hospital's new dict chart, employing colors in headings.

Dr. Stephen W. Stafford, of New Orleans, will assume the superintendency of the Charity Hospital, that city, October 1, succeeding Dr. C. D. Wilkins, who has had charge of the institution for the last four years.

DEPARTMENT OF DIETETICS

Conducted by MISS LULU GRAVES.
Dietitian of Lakeside Hospital, Cleveland, Ohio.

Please address items of news and inquiries regarding Department of Dietetics to the editor of this department, Lakeside Hospital, Cleveland, Ohio.

Some Institution Kitchen Problems

BY MISS LOUISE POLLOCK, Dietitian City Hospital, St. Louis.

In many state and municipal institutions large numbers of people are fed from a single kitchen. While it seems right that the expense of maintaining and curing these patients should not be great, they surely should have set before them plenty of wholesome food prepared in an appetizing way.

NEED OF SUPERVISION OF KITCHENS AND DINING ROOMS.—In such an institution there should be one person in charge of the entire dietary department. By this I mean this one should determine what is to be fed on each day, see that this food is ordered in time for preparation, that it is in good shape when it arrives at the institution, and last, but not least, that the chef properly cooks it, that it is sent to the dining rooms hot or cold as the need may be, and then that it is properly served. Many a meal is spoiled on its way to the dining room or in the dining room while being served to the patients.

In a hospital for the insane there are distinctly four groups of patients from a dietitian's point of view:

1. Those patients who work; many people who must be confined in a hospital for the insane are physically able to do much work under supervision. They should not be forgotten at meal time, for they will need more food than those patients who spend the greater part of the day sitting quietly in the ward. For the working group a little heavier breakfast should be prepared; besides the cereal, bread, butter, and coffee, they could be given fried mush, pancakes, French toast, etc. If the remainder of the patients have meat, potatoes, gravy, a vegetable, and pudding or pie for dinner, a generous helping of these should be sufficient for the workers. Then, the supper might be supplemented with potatoes or hash.

2. The infirm group needs due consideration. While for some of them we entertain little hope for recovery, they appreciate and greatly enjoy good meals. The teeth are often poor or absent altogether, or the mentality is so deficient that the food served is scarcely chewed at all. A separate diet for these persons is in order. It should be made up of foods thoroughly cooked and easily masticated. I would suggest cereals of all kinds, potatoes either mashed or creamed (having been cut in small dice); that all meat be finely cut before serving; that it be in the form of beef loaf, hash, thoroughly cooked meat stew, minced ham; that no roast meat or steak be served. We would eliminate such vegetables as green corn and green beans, but many of the other vegetables, if cut fine or mashed, could be served. All the soft puddings could be used.

3. The proportion of "sick" patients is usually small, so that they ought to be afforded the real "sick diet." If these patients can be grouped together so that one diet kitchen can serve both men and women, or one diet kitchen can be placed on the male side and one on the female side of the institution, much good will be accomplished. While it is not advisable for various good reasons to have store rooms on the wards, each institution should provide a way for preparing food for its physically sick. To these people should be given the best and daintiest food to be obtained—fresh fruit in season, eggs, steak, chicken, good puddings, and as many appetizing dishes as it is possible to prepare. While in serving this there is constant danger of having all the dishes broken and the linen on the tray torn to shreds, by careful watching of the nurses some of these dangers may be obviated.

GENERAL DIET.—Most of our insane are able to come to a dining room to eat. They enjoy a good meal just as you or I do. The problem of preparing and serving this good meal is not a small one. We grow into the habit of serving, say, stew every Tuesday for dinner and rice every Thursday night for supper, instead of giving the people a surprise occasionally. It is true, we buy in large quantities, and it must be contracted for in advance; but with the mechanical devices now on the market we can change our ways of cooking even the same old things and thereby give considerable variety to meals. Think of it! Suppose you yourself ate plain boiled potatoes or potatoes boiled in their jackets 365 days out of every 365 days. But suppose the cook has no oven in which to bake and no masher in which to mash potatoes for, say, 2,000. What, then, can be done?

Install a good patent oven of sufficient size that all of the patients may have baked potatoes, baked beans, browned potatoes, and similar things as many times a week as it seems advisable. Then have the baking pans made so that they will fit into the food boxes which go to the ward dining room or the general dining room. By the time nicely browned baked beans have been emptied from the baking pan into a serving pan and again served in the dining room, they are far less appetizing in their appearance than they would have been if another scheme were in use. The cost of building an oven would not be small, but, if properly built, its cost of maintenance would be but little. To be able to provide baked fish, fried ham, etc., for the patients is worth the effort.

The serving of mashed potatoes to 2,000 means an enormous amount of work. It generally means that the potatoes are poorly mashed and invariably reach the patients cold. Some of this can be obviated by installing a motor-driven potato masher. There are several makes, but choose the one that provides several bowls, so that the bowl need not be emptied every time a bushel of potatoes is mashed. Of course, the milk, butter, and salt may be added while the potatoes are being mashed. Most of the machines are supplied with various "arms" for different attachments, so that the thickening for gravy may be made and different batters mixed.

MEAT CHOPPER.—Next the kitchen needs a motor-driven meat chopper. These choppers are made in various sizes, and built so that the meat may be chopped fine or coarse as the chef may wish. After such a machine is installed, the patients may easily have meat loaf, hamburger steak, meat croquettes, etc. When making bread pudding or bread dressing, such a machine is especially convenient, for large quantities can be cut in a very short time.

POTATO PEELER.—The amount of waste in peeling potatoes in a short time means money. With even a well-

supervised scullery, there must be some waste. The use of a peeler means saving money. I am of the opinion that that peeler in which the parings are removed by friction is best, but a tin lining must be replaced and repaired often. While the initial cost is greater, a machine made of some rough cement bowl would be the best make. Such vegetables as carrots and turnips could also be pared here.

VEGETABLE SLICER.—For slicing onions or other vegetables in thin slices, a small hand-driven machine saves time. It should have a permanent place in the kitchen, for it will be used daily.

The power-driven ice cream freezer is quite an addition to the kitchen equipment, but, together with the other machinery mentioned, should be placed in a room adjoining the kitchen.

Assuming that the kitchen is supplied with a range, square steamers enough to steam all the vegetables with steam-jacketed aluminum kettles for cooking fruit and cereals, and iron steam-jacketed kettles for making soups, stews, pot-roasting and boiling meats, and the small equipment, such as pans, racks, tables, sinks, etc., the chef should now be able to put out meals of variety.

BAKESHOP.—There is need of a good patent oven first. By a good patent oven I means one which may be fired to different temperatures for the baking of bread, cake, biscuits, pies, etc. Of course, the oven to be chosen is not one in which gas from the fuel comes in direct contact with the baking food. In case coke is burned, a rear-fired or basement-fired oven has the great advantage, for the shop does not get so dirty from the fuel.

If the institution is large enough, so that it is worth while to bake bread, it is worth while to have a power-driven dough mixer in the bakery. In spite of the patient labor which may be available, the mixer should be used, because it is much more sanitary.

We all know that sifted flour "goes farther" than that not sifted. Then we find that quite an appreciable amount of debris of different kinds is sifted out of flour. Now, to expect the baker to sift, say, five barrels of flour daily is too much; in fact, he will not do it. He should be supplied with a power-driven sifter which sifts the flour directly into the mixer. If the flour is stored on the same floor with the shop, the sifter may be combined with a flour elevator to raise the flour above the mixer and sift into mixer. If the flour is stored on the floor above the bakery, it may be easily sifted down. In remodeling or building a shop, remember that in case there is not sufficient room to store the entire supply of flour in the shop, a warm flour room, holding several days' supply, should be provided, so that the flour will be warm and dry.

There are certain automatic devices now on the market to help with the measuring and weighing of the water and flour respectively. A measuring and tempering tank for the water which is to be put into the dough is well worth while. The baker knows how much bread he must make and how much water a given amount of flour should take. In making good bread, the temperature of the water has much to do. Install one of these devices above the mixer and save the baker carrying water to the mixer. For the sake of exactness, an automatic weighing device should be installed, so that the baker may make no mistake in putting in the flour. Commercial bakeries find these helps a necessity in these days of high costs and close competition. If it is worth while to them, it is worth while to those of us who oversee the expenditure of other people's funds.

Steel troughs in which the dough is placed to rise should replace any wood troughs now in use. They are much more sanitary, require less work to keep clean, and consequently are more apt to be kept clean. After the dough has been mixed in the mixer and allowed to rise in the troughs, it is cut into pieces to be molded into loaves. Machines for cutting this dough do not seem practical for institution use, but kneading machines for kneading the dough are great labor savers. By installing such a machine in an institution of, say, 2,000, one baker less will be needed to get out the bread; so the machine would pay for itself in a little less than a year. Aside from this fact, the bread is uniformly and thoroughly kneaded and is surely more sanitary. The time required for kneading bread is greatly lessened, the exact time depending on the number of loaves, the kind of machine, and the efficiency of the operator. Besides this, the baker can mix a large batch of bread at one time without its getting "too old" before he has time to mold it.

A cake mixer is provided with many sized bowls and beaters of different kinds, so that butter may be creamed, batters of different consistencies may be mixed, or eggs may be beaten. The time required to mix cake for 2,000 is very short. Aside from this, there are no lumps and the texture is better than the best baker can make by hand.

We say cookies are just the same as cake, but they are not. Patients eating year after year at the same table enjoy the different cookies—ginger, sugar, soft, oatmeal, etc. Within less than an hour one man can, with the aid of the mixing machine and a power-driven cooky cutter, prepare as many cookies as two men can prepare in half a day. This helps very materially in introducing variety into the menus.

The bakery needs a small gas or coal cooker or stove, where the baker can prepare pie fillings, etc., instead of depending on the institution cook to do this.

BREAD ROOM.—After removing the bread from the oven, it must be thoroughly cooled and then stored. If the bread is cooled on portable, galvanized iron racks, it can then be pushed directly into the storing room. If covers are made for these racks, they can be rolled on out to the ward elevators without a second handling.

When the kitchen and bakery are equipped, we have only started. Constant care must now be taken to keep all this in order; constant prodding is necessary to induce the kitchen help to use these devices with the proper respect.

Wheat Flour and Bread Costs

BY G. L. TELLER, M. S., the Columbus Laboratories, Chicago, Ill.

[Continued from the September issue.]

The present high price of flour and other articles used in breadmaking has led to much discussion recently in the daily press concerning the cost of bread and the necessity of reducing the size of loaf to meet the increased expense to the baker. A consideration of the cost of bread made in small lots by the housekeeper and by small hospitals is, therefore, very appropriate at this time.

Bread, as ordinarily consumed, contains a considerably larger proportion of water than does the flour from which it is made. Three 5-cent loaves of bread purchased in the open market, made by different representative Chicago bakers and wrapped by them in waxed paper, were found on determination to contain 30 percent of water. Flour ordinarily contains about 12 percent of water. As sold to the family trade, it probably does not often contain more. This indicates an increase in weight, due to the water in the bread, of 25 percent over the weight of flour used; that is, 48 ounces of flour will make 60 ounces of bread. On this basis we can calculate the cost of the

ingredients which are used in a loaf of bread at the present market prices in Chicago as these ingredients will ordinarily be purchased by the housewife. These ingredients include flour, salt, sugar, lard, and yeast. The present prices in a large retail store are as follows: flour, in 49-pound sacks, $2.27, equivalent to a little more than $9 per barrel; lard, in 5-pound pails, from 70 cents to $1.19, depending on quality and brand—a fair average price for lard would therefore be 17 cents per pound; granulated sugar, 7 cents per pound; best table salt, 10 cents for 10 pounds; ½-ounce cake of compressed yeast, 1 cent per cake.

Flour as sold to the family trade in Chicago consists almost wholly of the better grades of hard wheat patents, such as Pillsbury's Best, Gold Medal, and Ceresota. These represent about the best breadmaking flours that can be purchased, and few, if any, of the stores carry flour that is of a cheaper grade.

Lard is used by many in the making of bread, either as one of the ingredients, or for greasing the crust of the loaf before baking, or for greasing the pan; sometimes for all of these purposes. The prices given above are for high-grade lard. Lard substitutes, like Cottosuet and Cottoline, can be purchased at less cost, and will serve the purpose in breadmaking as well as the best lard.

Good bread can be made without the addition of any sugar, but better bread can be made by adding a small amount of that material. The housewife will ordinarily use granulated sugar, and this can really be purchased at less cost than the unrefined yellow sugar.

Two kinds of yeast are in common use—compressed yeast and dry yeast, such as Magic Yeast or Yeast Foam. Either of these give excellent results in breadmaking when used according to directions.

No schedule of the cost of bread would be complete without a consideration of the cost of fuel necessary for baking. In the summer time gas ranges are in common use in Chicago and other large cities. According to data given by the manufacturer of one of the best of these stoves, an 18 by 18-inch oven, heated with two burners, will require 20 cubic feet of gas to keep it at baking temperature for one hour. This will cost, therefore, approximately, 2 cents for the baking of a batch of bread. Where smaller quantities of bread are baked, smaller ovens can be used, requiring considerably less gas for heating, and, where larger quantities are baked, larger ovens can be used with probably considerable saving in the proportionate amount of gas used. In families and hospitals where coal ranges are used, little additional fuel will be required during the winter months to produce the heat necessary for baking bread, so that in such instances the cost of fuel would be negligible.

With these facts in mind, we may calculate the necessary outlay for material and fuel for the making of bread on a small scale. A convenient quantity to bake from the standpoint of economy will be 3 pounds of flour. This will require 1 cake of compressed yeast. To this we will add 1 ounce of sugar, ½ ounce of salt, and 1 ounce of lard. The cost, when tabulated, will show as follows:

Flour, 3 pounds at $9 per barrel, 4.6 cents per pound, equals	13.8 cents
1 ounce sugar, at 7 cents per pound, with ½ ounce salt, equals	.5 cent
1 ounce lard, at 16 cents per pound, equals	1 cent
1 cake yeast	1 cent
Gas for baking one hour	2 cents
Total	18.3 cents

From data given above, it will be seen that these ingredients will make 62½ ounces of bread. One cent will, therefore, furnish material and fuel for 3.4 ounces of bread, or 10 cents will buy the necessaries for 34 ounces of bread. Deducting the cost of fuel necessary when gas is used, we shall increase the amount of bread for 10 cents' worth of necessaries to 38 ounces. This cost will be materially decreased with every decrease in the price of flour of $1 per barrel, and, when flour is selling at $7 per barrel, we shall have, without allowing for cost of fuel, a yield of 47.3 ounces of bread for 10 cents of the above necessaries. The price of the other ingredients has of late not varied materially throughout the year.

In the above no reference is made to the cost of labor. The actual amount of time required for baking a batch of bread like the above, as it will ordinarily be done in the household, is from one to one and one-half hours. This is extended over a period of from four to five hours or longer, depending on the length of time necessary for producing the bread, and is, of course, ordinarily interspersed with other work in such a manner that no material time is lost from either. To the housewife who is doing her own work, and takes a pride in it, this amount of labor used in the baking of bread would not be seriously felt. If, however, we calculate the cost of this time at the current rate of domestic services in Chicago, which amounts to $7 a week, and often more, without any allowance for board and room, we shall have to pay for these services at the rate of about 10 cents per hour; or, allowing a just estimate for the additional cost of board and room, we shall pay at the rate of 20 cents per hour, so that the cost of the time necessary for making the 62½ ounces of bread would be at a minimum equal to the cost of the material itself, and, when flour is $9 per barrel, we should receive for 10 cents of expenditure only 17 ounces of bread. In hospitals, where the amount of bread baked is larger, the proportion expended for the cost of labor would, of course, be much less.

From the standpoint of cleanliness, wholesomeness, and food value, there is nothing to choose between bread produced at home and that produced in the modern bakeshop. It is to be assumed that in all these particulars the conditions are reasonably good. Bakers' bread may be obtained fresh daily. The housewife will bake two or three times per week, according to conditions. She will have no difficulty in keeping the bread this length of time if she bakes it herself, but, strange as it may appear, she demands that the baker's bread shall be absolutely fresh, and this demand helps to materially increase the expense of the commercial breadmaker because of the loss on stale bread which is returned to him.

At first thought, taking into account the fact that the commercial baker obtains his material at much less cost because of purchasing in larger quantities, it might appear that bakers who are urging the increase of the cost of bread, so that they shall sell a pound and a quarter, or less, for 10 cents, may be exacting too much of the consumer, but it must be borne in mind that a considerable part of the cost of bread purchased at the market is to be charged up to the selling end. The grocer who handles the bread receives the sum of 1 cent for the trouble of selling a 5-cent loaf, which often includes the expense of a delivery boy, horse and wagon to send it a distance of several blocks. The cost of labor is continually increasing, the plant is depreciating in value, and there are many other expenses which do not appear in the making of bread in the household. On the other hand, the woman who wishes to economize in her household expenses, and who has the time and inclination to do the necessary work, will find pleasure and some profit in making her own bread.

INDUSTRIAL WELFARE

A PROTEST? OR A NEW PRINCIPLE?

* * *

An Interesting Movement in Welfare Work

In the town of West Frankfort, in Franklin county, southern Illinois, a 65-bed hospital is nearing completion and is expected to be opened about November 15. Not very much attention has been paid to this little hospital, and the significant movement behind it seems not to have been recognized even by those who are responsible for it; but it seems to be either a temporary protest or the beginning of a new era in industrial welfare in this country.

The town of West Frankfort, with its environs, has 10,000 people. There are five coal mining corporations taking out coal there, which employ a total of approximately 2,500 miners. There are about ten doctors in the town, some of whom are irregularly employed by the coal mining corporations to take care of the accidents that happen in the mines.

Two or three years ago the officers of some of the local miners' unions became disgruntled over the treatment of some of their members by the corporations. They claimed that inadequate care was given to those who were hurt, and that settlements were forced from them while they lay ill of their injuries. This discontent grew until finally there came out of it a definite proposition from some of the "locals" that the employees in the mines ought to have their own hospital, conducted under their own auspices by their own medical attendant, and paid for out of their own funds. To bring about this end, meetings were held by the different locals, and resolutions were adopted by which the unions loaned to the members a fund sufficient to build a hospital to cost approximately $50,000, and it was agreed that the members should pay back this fund at the rate of 25 cents per month each, and that, in addition to this assessment, each member of the unions was to pay $1 per month for hospital medical and surgical care. Miners' families were to be treated surgically for moderate fees by the hospital staff, and the medical staff service was to be given to the miners' families free.

Immediately after the passage of these resolutions a special committee was appointed, composed of members of the various unions, to go ahead with the plans for the hospital and with its construction. A contract was then entered into with four physicians, of whom Dr. Frederick Greenbaum, formerly of Chicago, was chief and spokesman, the terms of which contract provided that these doctors were to conduct the hospital both on its administrative and professional sides according to specific rules which were made a part of the contract. It is said that the coal mining corporations are bitterly antagonistic to the new hospital, its new medical men, and the movement generally. The hospital is now nearing completion and is being equipped. During the past year, while construction was going on, the medical group of four men who are to conduct the enterprise have made inroads on the general practice of the community, partly by means of a small 10-bed hospital improvised out of an old residence and partly by means of exceptionally good medical and surgical service.

The whole movement which has culminated in the new hospital and its new system of operation is now beginning to attract some attention. The United Mine Workers and various state bodies have recently been making inquiry about the movement at West Frankfort, and some of those at the head of the movement have been asked to address miners' meetings in various parts of Illinois, and it is the belief of the miners' union officials at West Frankfort that their movement is to take the place eventually, among the coal mining industries, of the present method of welfare work under which the employers of mining labor have held control.

The employers at West Frankfort believe that the movement which inspired the new hospital is a sporadic one, that it grew out of a local discontent, largely personal in character, and that nothing more will be heard of it.

THE DEPARTMENT STORE HOSPITAL

* * *

Mandel Brothers, Chicago, Care for Physical Efficiency of Employees

BY D. F. KELLY, General Manager.

The employees' welfare work carried on by Mandel Brothers has received the recognition of many eminent sociologists in America and abroad, besides considerable notice in newspapers and magazines. Scores of appreciative letters have congratulated this house on its recognition of the purely human needs of employees.

Important features of the Mandel welfare program are the employees' lunch room, where wholesome, substantial food is served at about cost; the commissary, where dry groceries are supplied at net wholesale quotations; the 10 percent (or more) discount allowed employees on purchases in all departments of the store; the two weeks' vacations and Saturday afternoon holidays during the summer. Mandel Brothers "Store News," published fortnightly in the interest of employees, affords them much helpful information and advice. But the most important element in all the welfare work is the hospital, with a competent physician in charge.

Mandel Brothers were among the pioneers in the field of department store hospitals. They equipped a modern emergency hospital and installed a doctor and a nurse when many other stores had not emerged from elementary methods of first aid. The function of Mandel Brothers' hospital at its inception was the care of customers who became ill while shopping and of employees who met with accidents. However, as the great possibilities of employees' welfare work were unfolded, the employees' interests superseded those of the customers. The hospital now cares for everyone who becomes ill or is injured in the store, and offers free treatment to all employees who wish it. It contains a waiting room, an examining room, a dressing room, a men's "ward" with one bed and a women's ward with three beds. There are ample facilities for performing simple operations, and, should the occasion arise, the patient could be kept overnight. Perfect asepsis is maintained, and a generous supply of standard drugs is always at hand for free distribution.

Since the majority of department store employees are women and girls, a woman physician is in charge of the hospital. She is able to secure the confidence of the women employees and to give them valuable aid and per-

sonal advice. Often she is called on to act as an intermediary between the employee and the employer, and is able to straighten out matters of a delicate nature. On the average, 75 patients are treated per day. During the hot summer months just passed there often were as many as 125 cases in a day. It may be mentioned in passing that Mandel Brothers maintain an expert chiropodist, whose services are given to employees at a nominal cost.

The Mandel medical service is of much broader scope

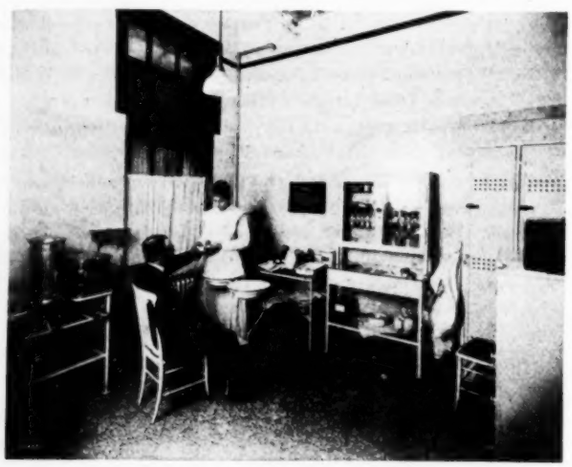


Fig. 1. Mandel Brothers' hospital. Examining room.

than is afforded by the facilities of the hospital. For example, a competent investigator visits the home of every boy or girl, young man or woman, who enters Mandel's employ. She reports on the neighborhood in which the applicant resides; the home affairs, when they can be learned; the number of dependents, if any; the income of other members of the family. If applicant is boarding, the character of the boarding-house is looked into.

When employees are ill, it is the duty of the house

Fig. 2. Mandel Brothers' hospital. Women's ward.

physician to visit them and report promptly as to their needs. When it is desirable that employees be sent to a sanatorium, the expenses of such employees as have been with the house for a year or more are frequently paid by Mandel Brothers. The house assumes full cost of sick benefits up to two weeks' full pay, or, in the case of urgent need, as much more as may be necessary to place the employee in physical condition to attend to his or her duties. In case of death, when funds are not available from any other source, the house pays the expenses of the funeral.

Incalculable benefit is rendered employees by apt suggestion, and instructions in hygiene and health. "What do you eat?" is one of the doctor's stock questions. In short, the Mandel hospital cares for the physical well-being of employees, and, in addition, throws about them every safeguard, moral and physical, that is possible without violating anyone's individual freedom.

A BRIEF FOR HEALTH INSURANCE

* * *

National Association for Labor Legislation Argues in Bulletin for Better Medical Care for Wage-Earners

A death rate for American wage-earners twice that of professional men, the prevalency of high sickness rates, the need among workers of better medical care and of a systematic method of meeting the wage loss incident to sickness, and the necessity for more active work in the prevention of disease—are the corner stones of the case for compulsory health insurance presented in the brief just published in New York by the American Association for Labor Legislation. This situation, it is pointed out, cannot be met fully by existing agencies, and can be properly remedied only by a system of health insurance embracing all wage-earners and dividing the cost among employee, employer, and the state.

The great amount of sickness in the homes of the poor causes an average loss by each wage-earner of nine days a year, and involves annually a national wage loss of approximately $500,000,000. Notwithstanding the greater prevalency of tuberculosis among wage-earners, their early susceptibility to the degenerative diseases of middle life, and the excessive death rate among the industrial population, workers often are unable to secure the medical attention they require. In Rochester, N. Y., it was found that 39 percent of the sickness cases were not under a doctor's supervision; in a city like Boston, Mass., one-fourth of the population, it is estimated, are unable to pay the fees of a private physician.

The lowered vitality and the poverty created by present-day conditions, it is claimed, can be checked only by a system of health insurance, which, for a small sum divided among employer, worker, and state, will bring medical care to the wage-earner and his family, will assure for a maximum of twenty-six weeks in a year a weekly payment of two-thirds of wages during the bread-winner's illness, and in addition a small funeral benefit should he die. "Compulsory health insurance," concludes the brief, "is an economical means of providing adequately for the sick wage-earner, and will prove a mighty force for the inauguration of a comprehensive campaign for health conservation."

MAKE MEN AS WELL AS GOODS

* * *

H. Black & Co., Cleveland, Ohio

BY HUGH FULLERTON, M. D., Medical Director.

The old-time phrase, "I am not in business for my health," is fast losing its significance; in fact, the reverse statement is coming into prominence. As the value of each employee becomes apparent to industrial institutions, the scope of the nurse and the doctor in the institution has broadened to such an extent that it is now not merely curative, but preventive as well. Health and sanitation work in factories, in its inception, was merely an attempt

to cure injuries occurring during working hours. The factory nurse or the doctor felt that their main function was to prevent infection following injuries, and to relieve suffering after the injuries had occurred.

To this rather limited field of effort has been added, as an additional function, the investigation of causes for injuries and the recommendation of safety appliances. Many of the more intelligent industrial corporations go even a step farther, and argue that physical injury is only a small part of the cause of temporary disability, and are now instructing the factory health officers to inquire into more chronic diseases. To this end there has been established, as a distinct branch of the factory medical service, a physical examination, which is, after all, nothing more than a physical inventory. The justification for this examination lies perhaps in the realization that many of our industrial misfits are the result of an improper placement.

Each employee represents an actual investment, an investment of time and effort, in teaching him the company's system, which, when translated into terms of reduced production and wasted material, can be stated in dollars and cents. The problem of employment is thus a little more significant than merely finding men to fill jobs. It is now considered more important to find the particular job which the prospective employee is best fitted to fill, thus reducing the labor turnover, which is so expensive in its indirect results. One of the primary qualifications to be discovered is physical fitness. So it is that the factory medical officers should play a large part in the selection of the employee. Frequently employees are engaged who do not entirely measure up to the physical standard. The examining officer, however, may feel that, by proper treatment, whatever defect exists may be corrected, and a course of treatment prescribed oftentimes as a requisite of employment, so that the subsequent consultations with the doctor and nurse may be regarded as a part of the employee's training.

After all, the problem of health and sanitation in factories is not unlike the problem confronting health departments in municipalities. The greatest amount of good can be accomplished, not by an enforced treatment, except in so far as the lack of treatment would be injurious to others, but by a thorough program of education. Teaching employees, and their families as well, the value of proper physical and medical treatment is an essential part of a factory health campaign; hence much of the time of the doctor and the nurse is spent in personal hygiene talks with employees, especially where a large percentage of women is employed. Every factory paper should contain occasional articles by the doctor or nurse—bulletins may be printed, or short articles on specific subjects inserted in the pay envelope. This can be made particularly effective if brought close to home by illustrating the points raised with references taken from the factory experiences.

The value of carefully kept records becomes apparent at once. It is quite possible to discover preventable causes of loss of time if the occurrences be noted, not as isolated cases, but in a total over a period of time. Thus it was found in one institution that frequent headaches among girls in the late morning occurred because of the lack of breakfast. The company established a breakfast period, and as a result the loss of time was reduced to a considerable extent. Many institutions furnish slippers, dry stockings, and embrellas to employees to prevent colds, which would reduce the efficiency of the employee or might cause an enforced absence.

Factory executives are often asked how the employees in their institutions regard the work of the factory nurse and doctor. We hear the word "paternalism" used frequently in connection with a factory health department, and are led to believe that the work is looked on with sufferance and sometimes even suspicion by employees, who subconsciously reason that they would prefer to have the money so spent put into their pay envelopes. The answer to such a query must necessarily be an indefinite one. The success or failure of the efforts of the factory nurse is dependent in a great measure on her personality. It is quite within reason to believe that employees would be easily offended by questions of a purely personal nature, unless these questions are asked in a spirit of friendliness and helpfulness, which will at once disarm suspicion. The factory doctor and nurse must see a human being whenever they make an examination. It may be said that the ideal physician is a purely impersonal one, but no one can imagine a purely impersonal patient. The doctor or nurse who examines his patient and sees only an interesting disease will not make a success. If, on the other hand, he can make his relation as personal as possible, the cooperation which he will receive will be gratifying.

The factory lunch room has before it not only the problem of serving good food at reasonable prices, but also the distribution of a bit of food education. To those institutions which employ a large number of female help the problem of food education is a vital one. The majority of girls leave the institutions to be married, and, in so far as they can be taught simple rules of food value, they can be made more efficient housewives, the community bettered, and in the end the institution responsible for the education will feel the good results.

Every manufacturing institution has before it two distinct problems—that of making honest, salable merchandise, and that of creating more efficient citizens. The proper performance of the first named has a direct relation to the prosperity of the company. The proper performance of the second named has an indirect relation, but a very definite one. Any organization is successful and will progress in proportion to the progress of the community in which it is located. As that community becomes more enlightened, as it becomes more healthful, so will the employment problem become less aggravating.

Each institution is, therefore, not altogether altruistic in spending time and the money necessary to educate employees in the value of health through the proper care of their bodies. The medical officers of a factory have before them the problem of human efficiency, and in so far as they can promote the healthfulness and comfort of the group with which they work, just so far can they justify their relation to the group, to the community, and to the management which they serve.

WHERE WELFARE FIRST BEGAN

* * *

John Wanamaker Store, Philadelphia, Pa.

The John Wanamaker Philadelphia Store is said to have been the first industrial corporation in this country to inaugurate and carry out seriously planned welfare work under the direction of a special officer paid for the purpose. This was twenty-five years ago. At that time a nurse, educated after the simple, crude fashion of nursing education of that day, was given practically carte blanche to do what she thought ought to be done for the employees of the store, and especially the women employees. There was a rest room for employees, with nursing service for those who became ill at work; a visiting

nurse to go into the homes and find out what the trouble was, and to relieve it if possible.

This work gradually developed, until in 1906 the medical department was organized, and at the present time more than 50,000 cases of illness of all kinds come under the care of that department annually. The medical staff consists of a consulting physician, a medical director, two assistant physicians, two dentists, four nurses, and four chiropodists. The equipment in the store at Philadelphia consists of five waiting rooms, five examination offices, a large demonstration and lecture room, a pathological laboratory, and three hospital rooms with four beds each. The dispensary, medical and surgical, is open during all the open hours of the store, and there are special clinics from 9 a. m. to 12 o'clock, and from 2 to 4 p. m. Special physicians are employed by the corporation for nose, throat, and ear cases, genitourinary disease, nervous disorders, diseases of the respiratory tract, and diseases peculiar to women. The corporation makes a special point of its examination of applicants for employment, and this examination is carried to a high altruistic point. As the result of this examination, candidates are advised as to the character of work in which they should engage, and those accepted are placed with a special view to their physical and mental qualities. Those who are rejected are carefully advised as to the cause of their rejection, and an attempt is made to advise them concerning the selection of employment elsewhere.

Concerning its employees, a watchful eye is kept to mark the approach of incipient diseases contracted by reason of city life and indoor employment, by dust-breathing occupations, and the various occupational diseases.

The corporation makes a special point of its athletic organizations; has its own bands, military companies, and outdoor sports, and for the girls has athletic instruction, calisthenics, swimming carnivals, country outings, and other forms of healthful exercise and amusement. The unique feature of the athletic agencies employed by the corporation is that the girls' and boys' athletic organizations are practically duplicates of each other, there being a girls' bugle and drum corps and a girls' band and military organization.

A marked distinction is made in this corporation by reason of the fact that very many of the 6,000 employees are young people not yet out of the growing stage, and a serious attempt is made to mold the character of employees, moral and mental, at the same time that the physical powers are in course of development. In the commercial institute, which is practically a business college, the John Wanamaker corporation gives a full business course to its employees, and, in addition, teaches many of the academic studies, such as commercial law, elocution, general literature, and the physical sciences. Another feature emphasized in the John Wanamaker stores is the summer vacation for employees. The corporation owns at Island Heights, N. J., a site of five acres on Barnegat Bay, on which it has the necessary buildings to accommodate a large number of employees at one time. This camp has been maintained throughout the summer for the past fourteen years and has grown to be a most popular resort for the employees, and has proven itself a very important factor in the maintenance of the health and morals of the employees. The employees live in army tents at the summer camp, sleep on cots, and are under the sanitary and hygienic direction of trained medical officers. All employees of the store attend this camp for two weeks each summer, the attendance being obligatory and as a part of their duty for male employees, and is optional with females.

SANITARY EQUIPMENT AND SAFETY

* * *

Remington Arms and Ammunition Company,. Bridgeport, Conn.

DATA FURNISHED BY MR. JOHN M. FRENCH.

We have a thoroughly equipped modern emergency hospital at the Remington works, in charge of two physicians, three nurses, and attendants, who treat upward of 100 cases daily. The majority of these cases, however, are only slight cuts or abrasions, as the company insists that in case of any other injury the man must be taken to the hospital for treatment. The hospital is furnished with three beds for emergency cases, to be used only for such a time as is necessary to detain the patient before he can be safely removed to the Bridgeport Hospital. Fortunately they have been seldom used. Stretchers are provided throughout the works, and the guards and watchmen have been trained to act as ambulance bearers.

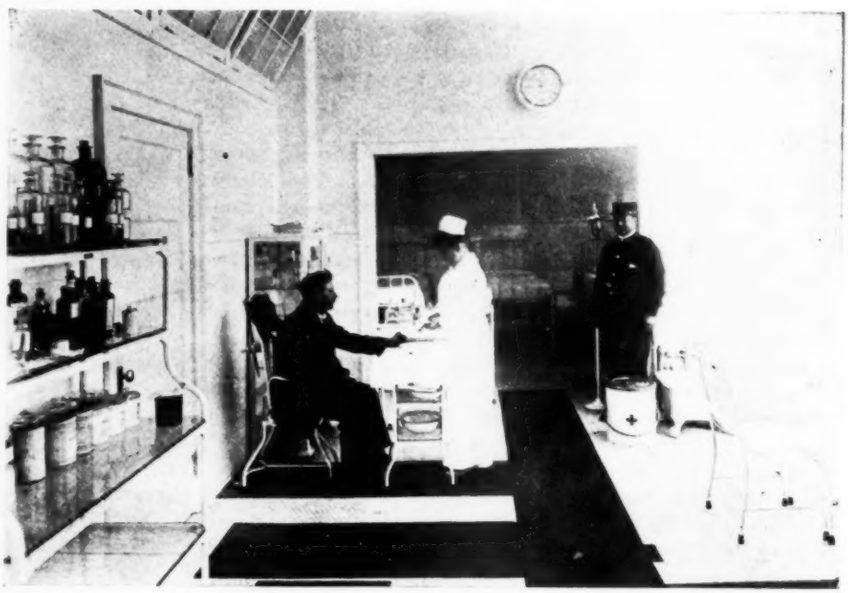


Fig. 1. Remington Arms and Ammunition Company, Bridgeport. Dressing room of the hospital.

The greatest care is taken in the plant to provide against infection from any cause. Drinking fountains have replaced cups, lavatory basins are furnished with running water, and only paper towels are allowed to be used. Cuspidors are provided in all the machine shops, and the men are educated to use them, a sanitary corps of workers being provided on each floor to keep them scrupulously clean. Another department is known as the safety first department, under the charge of a competent engineer, whose duty it is to safeguard against accidents of all kinds by the proper appliance of guards and safety devices. A section of one of the machine shops is set aside for the manufacture of these appliances.

An extensive electric dust collecting system has been installed in all abrasive and wood-turning departments, and goggles are supplied in every instance where men are exposed to the danger of dust in the eyes. These goggles are not transferable among the men, and each man must retain his own to avoid the possibility of spreading infection.

We have an excellent fire system and adequate fire escapes. The exit doors are furnished with panic locks, so that in case of fire all the floors can be promptly cleared without danger of crowding.

The restaurant is conducted on the most improved sanitary plans; in fact, no detail has been too small to receive attention when a matter of sanitation or safety was involved.

Dr. Darlington, former chairman of the New York Board of Health, delivered a lecture to the foremen of the Remington works some time ago on hygiene, in which he complimented the company highly on the thoroughness of their sanitary equipment.

BIG BENEFIT FUND BASIS OF WELFARE WORK

* * *

Eastman Kodak Company, Rochester, N. Y.

EPITOME OF WELFARE WORK FURNISHED BY MR. F. W. LOVEJOY, General Manager Manufacturing Department.

The basis of the company's welfare work is the provision of a fund of $1,000,000, the income from which is used for the payment of accident compensation, sick benefits, and pension to its employees. No set pension or sick benefit plan is followed, each case being considered on its own merits. Length of service and the necessities of the case are prime factors in the amount awarded.

The company has forty large manufacturing buildings, of which eighteen are concrete, thirteen are mill construction, five are steel and brick, and four are wood. The work rooms in general are heated and cooled with conditioned air which has been passed through either bag or water spray filters and then over brine or steam coils to distributing fans. Ventilation is forced in most of the work rooms by the plenum system; artificial lighting, where necessary, is made to suit the particular location and the particular work—ruby lights in many cases. The artificial illumination is tungsten lights in holophane reflectors. The wash rooms are supplied with plenum system of ventilation, and abundant hot water is supplied to all employees. Shower baths are located in several parts of the factory buildings. A noonday luncheon is served, at which portions vary from 1 to 5 cents.

There is an elaborate fire department, thoroughly well officered and operated under rigid printed rules, each of the large number of persons employed in the fire brigade being thoroughly drilled in his and her work.

The medical department is in charge of a physician and two nurses. In addition, two other physicians and their assistants give practically their entire time to the examination of applicants for employment. A number of emergency hospitals have been established and fully equipped in different parts of the factory. Rest rooms are connected with all the working units, under competent supervision.

There are not only physical examinations for applicants for employment, but there are seriously conducted periodic examinations of all employees, with a carefully operated "follow-up" system of reexaminations of those who are found to have defects or even the slightest diseases. There is a three-story building covering 43,000 square feet which is used as dining and recreation rooms, including an assembly hall. There are musical entertainments, smoking concerts, dances and indoor games. A large athletic field of four and a half acres has been laid out with tennis courts, baseball diamonds, football grounds, and cinder track.

All employees of one year's service are paid for time absent on account of sickness or special leave. Employees have from one to two weeks' vacation.

There is a profit-sharing or wage dividend plan, based on the assumption that dividends to common shareholders up to 10 percent are the equivalent of the employee's fixed wage. The plan, therefore, provides that the dividend to wageearners shall be based on like dividends paid to other shareholders. This dividend for the past three years has amounted to 35 percent of the percentage of extra cash dividends paid to holders of common stock. As an illustration of this, the extra dividends to holders of common stock have amounted to 30 percent; 35 percent of 30 percent equals 10½ percent; divided by five equals 2⅒ percent on each of five years' wages. Applying this formula, the employee who has worked for the company five years and who has averaged $15 per week during that time will receive $81.90, equal to about five and a half weeks' pay. The company does not undertake, in employing its people, to continue the profit-sharing plan, but hopes to do so along somewhat the present lines.

IN A CORPORATION OWNED CITY

* * *

Bush Terminal Company, New York City

The Bush Terminal Company takes issue with the current terms used in welfare work, such as "sociological work," "welfare work," "betterment," "industrial welfare," which the company thinks imply a species of afterhours superintendence and an unwelcome form of charity. At Terminal City, where most of the employees live, a very definite scheme of cooperative health and welfare service is conducted. Many people living in Terminal City do not work for the corporation, but the company takes the ground that it cannot serve even its own employee without also extending a hand to help the next-door neighbor or a boarder living in the house, and therefore its health and recreation activities are extended to all those living in Terminal City.

There is a very efficient and well-organized scheme of helpfulness from the time an employee goes to work with the company until he is laid on the shelf for age or incapacity. "Job insurance," the company thinks, is one of the surest means of rendering the employee comfortable and at peace of mind; and therefore the company undertakes to provide work for all of its people all the time without any extensive lay-offs on account of business depression or lack of work from other causes. Another activity which does much to eliminate worry among Bush workers is a loan bureau, conducted for the purpose of advancing money to employees to meet emergencies, such as sickness, funeral expenses, or the advent of a new member in the family; above all, the purpose of this loan bureau is to defeat the "chattel mortgage" tragedy and the ominous "loan shark." Great care is taken to keep this loan service in good working order and to prevent abuse. The loans are not in the shape of charity, but are made on a businesslike basis, upholding the borrower's self-respect and developing his sense of business responsibility. There is also a savings system, which the employees of Terminal City are encouraged to utilize. It is the company's experience that, having this savings de-

partment connected with the pay-roll desk, employees will often transfer a part of their wages into savings certificates before leaving the Terminal for their homes, thus removing the means and the temptation for spending.

There is a well-devised luncheon system, where the employees can avail themselves of its privileges; "scientific dietary," as such, is kept in the background, but nevertheless the dietary is predicated on sound scientific principles.

There is a hospital and dispensary in Terminal City, and an efficient corps of physicians and nurses. The Bush Company believes that "all work and no play makes Jack a dull boy;" consequently in Terminal City provision is made for bowling, billiards, basketball, and gymnastic sports in the winter, and baseball, tennis, and outdoor recreation in the summer time. The women employees share in the athletic activities as far as they can. There are about 25,000 people provided for in the Bush Terminal Company's welfare work.

SHORT STORY OF BIG WORK

* * *

Standard Sanitary Manufacturing Company, Louisville, Ky.

In the plant the company operates at its own expense a first aid station, in which a trained nurse is kept constantly in attendance, and this same nurse visits the families of employees and renders help in their homes. A unique feature of this company's medical service is that it makes no pretense of furnishing medical attendance to employees free, excepting where the employee has contracted his trouble in the line of duty. In organizing this medical attendance service, it was the design to place it on a self-sustaining basis. Each head of a family pays $1 per month, which entitles him and his whole family to medical service, while single men pay 50 cents per month. The service does not cover those diseases that require a specialist, but arrangements for such special attention are made by the company at reduced fees. There are approximately 3,000 people who come under the welfare service of the corporation.

PERIODIC EXAMINATION OF EMPLOYEES

* * *

Firestone Tire and Rubber Company, Akron, Ohio

DATA FURNISHED BY MR. R. E. LEE, of the Industrial Service Department.

We have a full-time factory doctor, whose duty it is to examine every applicant for work, and also to periodically reexamine our employees, giving such advice or help as will be of benefit to them. We have been following the policy of fitting the man to the job, and there have been many instances as a result of the examination by our medical department that we have been enabled to be of great help to the employees. We have found employees working at certain operations which required lifting or heavy strains whose hearts were more or less affected. When our attention was called to these conditions, these men were immediately changed to employment where there was no heavy lifting or strains which would likely prove injurious to them. We might add that in no case was the man placed at work which reduced his compensation.

We have in operation a dental clinic, with a full-time dentist, who examines all applicants for work, and treats employees when the teeth require attention, filling the teeth, etc. No charge is made for this work.

We have a hospital in charge of graduate nurses, where all first aid work is administered and subsequent treatment given where necessary.

We have furnished hot meals to our employees at a factory restaurant, which has proved too small, and we now have under construction a four-story club house, which will be equipped with a dining room with a seating capacity of 1,700. This club house will have a modern swimming pool, with shower baths, bowling alleys, pool tables, lounging room, library, and assembly room. The meals which are furnished employees are served at a nominal cost—in fact, at a price less than the cost of operating the dining room, our idea being that the serving of wholesome food in the proper way is mutually beneficial. We carefully observe our drinking water, having in operation artesian wells, and, in order to insure as near as possible pure water, we constructed our own filtration plant, through which the water passes before being piped to the various departments. We do not use any drinking cups, and from time to time have analysis made of the water to determine its condition. We employ a large force of porters to keep the factory in a clean condition. It may be interesting to state that in our force of 4,000 men in 1915 there were only five deaths, three of them having occurred outside of our factory by the men being struck by railroad trains at grade crossings, so that the number of deaths in our factory from natural causes was only two during the year.

The above is a brief outline of our activities in looking after the physical condition of our employees, and we do not feel that they can be considered specially philanthropic. We believe our plan to be a good investment, and, while it might be considered a selfish motive on our part to regard it as a good investment because we think it increases the efficiency of our employees, it is largely a question of economics, and we feel that the money we spend in looking after our employees is not only appreciated by them, but is helping to solve some of our important problems.

Entertainment for Workers

To the Editor of THE MODERN HOSPITAL:

There is a note running through the pages of your splendid August special industrial welfare number that sounds a good deal as though THE MODERN HOSPITAL is not in sympathy with clubs, athletic organizations, military companies, bands, and the like as a part of industrial welfare work. Just what is your judgment as to the desirability of these activities as contributing to the loyalty, the health, and happiness of industrial workers?

A PUBLIC UTILITY CORPORATION.

Without any doubt the conditions obtaining in each corporation or in each manufactory must determine the answer to this inquiry. It seems that the answer must hinge on the location of the plant; the International Harvester company, that does very much for its employees, found that in the Chicago works, where many thousands of men and women are employed, the distractions of the great city, the long distances from the plant that many of the people live, and the many varieties of entertainment that the people find on their own account, make it unnecessary, if not actually undesirable, to inaugurate anything of the kind.

On the contrary, where the plant is a very large factor in the life of a small community, the preponderance of the testimony as expressed in the August number leans in the other direction. In a small town the diversions available to the workers in the one large plant are few and far between. Young people must have diversion and entertainment, and, if they cannot get them, they will go to the big cities, and the plant will lose its most valuable and promising asset. That is the reason why the farms lose their young people.

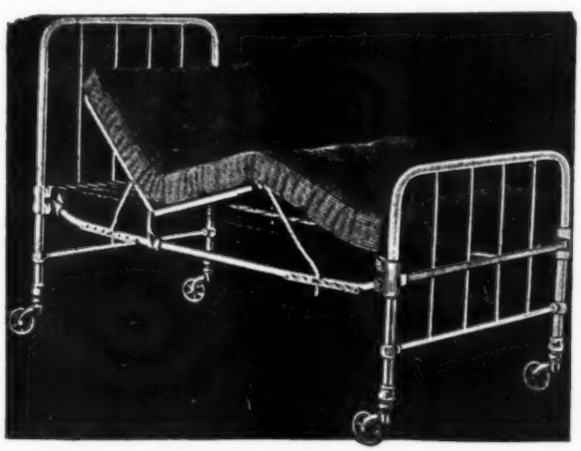
NEW INSTRUMENTS AND EQUIPMENT

VINCENZ MUELLER, Technical Editor.
GEO. W. WALLERICH, Associate Editor.
Please address items of news and inquiries regarding New Instruments and Appliances to the editor of this department, 327 Southeast avenue, Oak Park, Illinois.

Improved Fowler Position Attachment for Hospital Beds

The demand by hospitals for Fowler position attachments to beds and springs has led to the development of many different devices for this purpose. One of these devices has found much favor among institutions and hospitals, in which it is already in use, for the reason that it is a simple but strongly constructed attachment, conveniently and easily operated, as may be seen by the illustration. There are no cross bars to interfere with the patient's comfort; the parts that come in contact with the spring surface are flexible copper wire, giving all the necessary strength without sacrificing the essential resiliency. The head and knee rest sections can both be dropped flush with surface of the spring without affecting the patient's comfort in any way.

The illustration represents a regular three-piece Bernstein easily detachable bed, which may be used for all



Bernstein's Fowler position attachment.

ordinary purposes or the Fowler position by the simple operation of raising the head and knee rest, which is very conveniently accomplished with this particular attachment. This combination feature seems to have everything in its favor, especially as there are no separate springs to lift on or off the bed, and consequently there is no danger of slipping.

The manufacturers state that these attachments are interchangeable in any Bernstein three-piece bed now in use, or the bed may be fitted with this Fowler attachment by the purchase of an entirely new spring with the device, or simply affixing the attachment to the hook springs already in use. The device can, however, also be used on top of any other springs, not manufactured by the Bernstein company, with satisfactory results.

A Prepared Vaginal Tampon

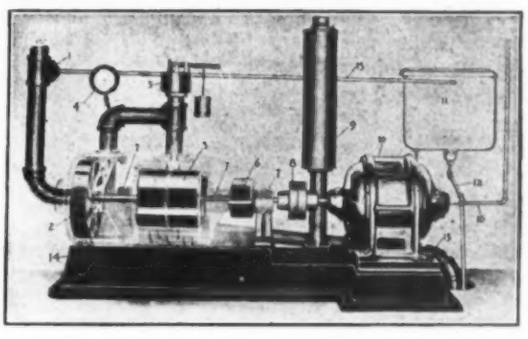
The cup-shaped tampon illustrated is made of lamb's wool, surrounding an absorbent material. The core of the tampon serves two purposes: first, absorbing any excess of the ointment used and also preventing leakage and staining of the patient's clothing; second, being firm, yet soft, it acts as a pessary. The advantage of the tampon as compared with the usual cotton form is that it does not become soggy and hard. Lamb's wool is the only material which comes in contact with diseased parts. As the cotton in the core shrinks on being moistoned in the same proportion as the wool expands, the tampon is retained at practically the same size and does not shrink as would cotton, or expand if lamb's wool alone were used.

Cup-shaped tampon.

At the present high prices of ichthyol and other preparations of similar nature, this new tampon seems to go far toward the saving of drugs, since use can be made of practically all material applied. The tampons are made in three sizes, and are being sold at a price low enough that it should pay the gynecologist to adapt ready-made tampons on a basis of cost alone, to say nothing of the advantages in the proportioning of the materials used.

New Sanitary Vacuum Cleaner

A sanitary vacuum cleaner, embracing new methods of dirt separation and its automatic continuous disposal, has recently been placed on the market. The most unique feature of the new machine is its centrifugal separator. As the dust-laden air reaches the cleaner, it is washed with water. By the use of a small rotar the dirt and water are separated from the air by centrifugal force and discharged into the sewer under no pressure during the time



Connersville system sanitary vacuum cleaner.

the machine is in operation. The washed dry air is discharged into a flue. Because of the automatic disposal of the dirt, it is never necessary for the operator to handle sweepings; neither is it necessary to clean out any tanks, as the centrifugal separator avoids those unpleasant and unsanitary features.

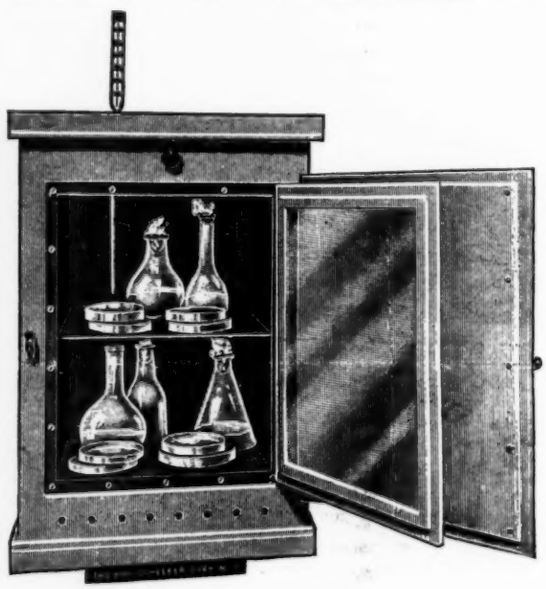
Usually self-discharging vacuum cleaners have a tank, practically filled with water, which empties itself when the vacuum producer stops, and equipped with several

automatic devices and valves which are liable to be stopped with the dirty water. This centrifugal separating vacuum cleaner has only one valve, a simple swing check valve, which opens just wide enough to discharge the water and dirt forced against it by the rotar of the separator. There is a small continuous spray of clean water entering the washing chamber, so that the instant the tool is lifted from the floor, this water cleanses the rotar and pipe line. This spray is drawn into the washing chamber from a box or tank, when the vacuum drops to zero on shutting down the machine. This box is kept full of water by means of a ball float and valve, and this float shuts off the city water supply as soon as the spray pipe ceases to draw from the box. The water and dirt are at all times handled under high velocities, thereby preventing any deposit on the inside of the piping, which would hinder proper operation of the apparatus.

Other important work to which this machine is adapted is the removal of soap suds and dirty water from rugs, carpets, or bare floors which have just been scrubbed, thus making much more rapid and easy the scrubbing of tile and concrete floors. Considering these various features, it seems that these machines are particularly well adapted for hospitals and sanatoriums, as a final disposal of all dirt and germs on entering the cleaning tool is a most desirable feature.

Electric Incubators

A new electric incubator for laboratory purposes, which is simple in construction and easy to manipulate, combined with neatness of appearance, is being offered under the name of the Asta electric incubator. The manufacturers claim for this apparatus that it is carefully tested and set at 37½° C. (99.5° F.) before being sent out, and



Asta electric incubator.

that it will automatically regulate and maintain the heat without variation.

Incandescent lamps have heretofore been employed quite generally to produce the heat required in an electric incubator. In this apparatus a source of radiant heat, as nearly as possible uniformly enveloping the incubating chamber, is employed, and is spaced a uniform distance from the source, so that the transmission of the heat through this distance will make more uniform its distribution about the surface of the shell forming the incubating chamber. The space in which the heating element is located contains a medium readily permitting the passage of radiant heat, and itself having an extremely low specific heat, so that a minimum amount of energy will be absorbed before the incubating chamber itself has reached the desired temperature.

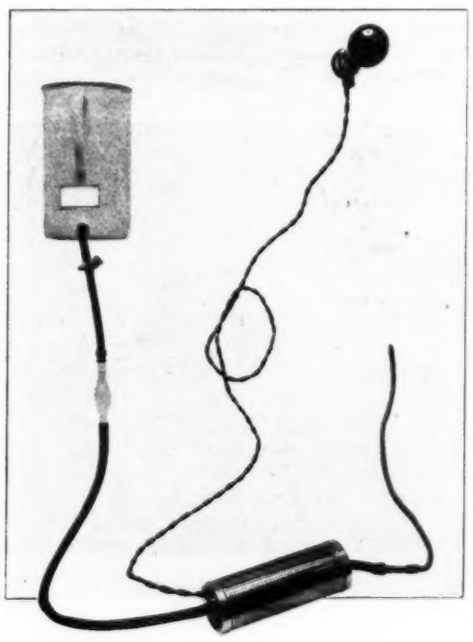
The shell forming the incubating chamber is made of copper, which is an excellent heat conducting material, for the purpose of increasing the uniform distribution of heat, and a heat-trap for the lamp illuminating the incubating chamber is provided. This is embodied in the incubator in such a manner as to conduct the trapped heat to a large area of the shell without affecting an undesired local heating of any particular portion of the inner chamber.

The inside dimensions of this incubator are: height, 16 inches; width, 12½ inches; length, 12 inches; capacity, 2,400 cubic inches.

Nylander Saline Solution Heater

The value of saline injection is so well understood that the merits of this procedure need not here be discussed. There has always, however, been more or less inconvenience in maintaining a practically uniform temperature of the solution. Various devices have been designed, such as electric light bulbs, hot water jackets, and even the alcohol flame has been called into service.

The device illustrated here is extremely simple in design, and, once connected, needs no further attention.



Nylander electrical saline heater.

The apparatus for maintaining the temperature of the solution consists of an electrical heating unit, which may be connected to any convenient socket. The rubber tubing, such as used with the usual saline injection apparatus, is passed through the center of this heating unit. An asbestos apron or covering is furnished, this covering being placed over the heating device and the apparatus attached to the bed clothes with safety pins. As soon as the current is turned on the temperature of the heater will rise to about 130 degrees in twenty minutes, then slowly con-

tinue to increase to 175 degrees, where it will remain as long as the current is on.

Regulation of the temperature can be quite closely maintained, depending on the distance of the heater from the rectum of the patient. For instance, by placing the heater 24 inches from the patient, the temperature of the solution at the point of injection will range from 98 to 100 degrees; if 105 degrees are desired, the heater is placed approximately 18 inches from the point of injection. The pilot lamp, which is placed in series with the heater, indicates whether the heater is taking the current.

The device is of such construction that it will stand considerable handling, and, judging from the number of hospitals which have recently installed it, many of them making use of a number of the heaters, it would seem that the apparatus is one which may be depended on.

Arntzen Auxiliary Stretcher

A stretcher which occupies less space than the conventional folding type, yet which, it is claimed, is stronger, has recently made its appearance. The Arntzen stretcher illustrated here has been designed by one familiar with ambulance and other types of emergency stretchers. It is not claimed that this appliance is to replace the so-called army type of stretcher, where the patient is placed prone on the back, but is rather an auxiliary stretcher, since a great majority of the cases which are

Arntzen auxiliary stretcher.

brought to the hospital can be handled by placing the patient either in a sitting position or on the back, with legs dropped over the end of the stretcher. The appliance is made of seamless steel tubing of such size as to make it convenient and comfortable to the hands of the persons carrying it. A heavy grade of duck canvas is used as covering, and this is stretched tightly over the frame by means of a heavy draw cord. A number of these stretchers have been installed by hospitals for accident cases, handling patients who are sent to the train, etc. On account of the compact size, the stretcher can be placed under the seat of an ordinary touring car.

Hospital and Office Scales

For the modern hospital and the sanatorium a good scale is now considered a diagnostic apparatus and is almost indispensable. The heavy platform type illustrated here (Fig. 1) was especially designed for hospital service. The capacity of this scale is 300 pounds, and the size of the platform is 12 by 15½ inches. The weights given can be depended on, owing to the accuracy and sen-

Fig. 1. De Luxe platform scale.

sitiveness due to its careful construction. No loose weights are used with this scale, and all computing is done on the beams, which are marked on both sides. A nickeled brass telescope measuring rod is provided and is attached to the pillar of the scale by brass clamps. The scale is finished entirely in white enamel.

Fig. 2 illustrates a bath room or office scale of an inexpensive and serviceable pattern which has been put on the market under the trade name of improved Madaco. A similar type of scale has been on the market for some

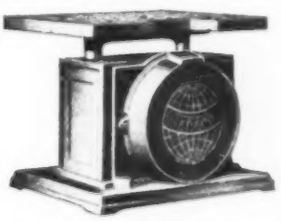


Fig. 2. Improved Madaco physicians' scale.

time, but as this was imported from abroad, it was difficult to replace any part in case this should become necessary, and hence the purchase of this type was not advisable. The mechanical principle is the same as used in the automobile speedometer. Correct weight is instantly ascertained by glancing in the glass aperture set into the top of the outer case, which covers a revolving dial clearly marked with the regular graduations. Other features of the scale are the cork mat fitted into the platform to act as an insulator and the regulating device which enables the user to adjust the dial. This scale is now made in this country, and both the scales here described can be furnished by the surgical supply houses.

QUERIES AND ANSWERS

Cost of a New Hospital

To the Editor of THE MODERN HOSPITAL:

What will it cost us to build and equip a hospital of 50 or 75 beds, with operating room and x-ray apparatus and children's and maternity wards? A TRUSTEE.

You can build a serviceable hospital of 50 beds, with operating room, x-ray apparatus, and children's and maternity wards, for approximately $50,000, or at the rate of $1,000 per bed, but we do not think you want to do that. In the first place, you would not get the highest order of construction—strictly fireproof, for instance—but we think the most important reason why a low-priced hospital of that sort would not be to your liking is that in thinking about building a hospital of this size you would want also to think about the possibility of its growing in the future—perhaps even in the near future—so that additions might be needed, and, if your hospital has the sort of backing that we imagine it has, we have no doubt that you would find it necessary quite soon to increase the capacity of your institution, especially if it is a good hospital; and, of course, you want it to be a good hospital, serviceable to its patients and capable of giving modern scientific care to the sick. If this is true, and you do expect that possibly your hospital will grow, then you will have to build with that idea in mind, and the construction under these conditions would be vastly different from other conditions in which the final hospital was to be built at one time; for instance, the administrative space of your eventual hospital ought to be provided for in the first unit—the offices, quarters large enough for an x-ray outfit commensurate with modern medical demands, an area sufficiently large to care for a properly equipped hydrotherapeutic plant, good kitchen and service rooms that will be large enough and comprehensive enough to do you when you get a larger hospital.

We are accustomed to think about the divisions of space in a hospital with about half the room to be actually occupied by patients and about half the space to be occupied for administration—that is, all other space in the hospital. In such a hospital as you ought to build there would be necessarily a large amount more of administrative space than patient space because you are providing for the future in administrative space and you are not providing for the future in the patient space. In other words, you ought to have sufficient administrative space, so that in three years from now, or five, you could build another wing for the actual accommodation of patients, and in which there would be practically no administrative space excepting service, bath, and toilet rooms.

But it is not necessary for you to use all the space that you now build for administration for its ultimate purposes. In other words, you need not put in your hydrotherapeutic equipment at the present moment; you can use that space for a ward for patients. You can build another good ward for patients, with all necessary installation, to turn it over subsequently for a somewhat elaborate x-ray plant, and for the present your x-ray plant can be rather small and modest in size and purpose, and so with your diet kitchens, your pharmacy, your waiting and reception rooms, your nurses' assembly hall; and in such a hospital as you are thinking about building now we think you could easily provide some space for housing your nurses in an upper floor. It will not require very many nurses, perhaps fifteen, or at most twenty, to take care of a 50-bed hospital.

We think you had better figure about $2,000 per bed for your hospital, or $100,000 for a 50-bed institution, and you had better consider, in addition to that, about $2,500 for an x-ray outfit, although you can get along with $1,500 for the present. You had better think about $1,200 for a sterilization plant, about $400 for the furnishing of an operating room, and twice the amount if you need two rooms, and the children's and maternity wards need not cost more than other parts of the house, excepting that you will have to furnish a delivery room in the maternity department, which will probably cost you, equipped, $200 or $300 extra. You can figure that your kitchen is going to cost you about $1,000 to equip, and then you had better add $100 for each patient's bed in the house and call that equipment. That will furnish the private rooms with all their belongings, and it will furnish the ward beds and other furniture, and it will furnish also that vast quantity of miscellaneous material needed to nurse patients in the hospital—the enameled ware, the dishes, silverware, napery, linens, rubber goods, basins and bowls, medical and surgical instruments, stretchers and carts, irrigators, and so on ad infinitum.

We are giving you these items more or less separately, not in order that you may add them all up and figure that as the bed-rock price of building and equipping your hospital, but because we have found that, where items of this sort are separated, very often the hospital people can go out and get some donor to give a specific amount for a specific purpose when that same person could not be induced to give a dollar if it was to be merely thrown into the maelstrom of an endowment fund. He is attracted by the idea of a bronze tablet on the x-ray room door, telling of his generosity in presenting that equipment, and he is attracted by the idea of his name being published in the annual reports as one of the substantial donors to the institution.

Your hospital, as a whole, can be built less expensively than the sum of all these items would seem to indicate, and we think, if we had to do the job. we could do it to your and your board's satisfaction with $100,000 for a 50-bed hospital and with $5,000 as an equipment fund.

Nurses and Rubber Runners

To the Editor of THE MODERN HOSPITAL:

Please advise us how many patients each nurse should be able to take care of in an ordinary, fairly well-equipped hospital when they have a work room on each floor and other modern conveniences. In your opinion, how many nurses would it require to give the usual service to twenty-eight patients?

Also give your opinion as to the advisability of placing corrugated rubber on the corridors where the floors are of pulp composition. Would this be more practical than battleship linoleum, and, if we put the battleship linoleum down, how could we fasten it to the floor?

A HOSPITAL MANAGER.

1. It would be humanly impossible to say how many nurses it will require to take care of twenty-eight patients unless we knew some of the conditions under which the

patients were to be cared for; for instance, if these are surgical cases, post-operative, they would require a good deal more nursing than if they were medical, and especially chronic medical, cases. It would require also many more nurses to take care of the same number of patients in a scattered-out hospital. For instance, you might have all these twenty-eight patients in one ward, and obviously they could be more easily taken care of and by far fewer nurses than if they were all private room patients, or than if they were in 2-bed wards scattered over three or four floors. If you will give us just exactly the situation in your hospital, we will try to give you a little better, more specific, help.

2. Corrugated rubber makes very excellent runners for halls, and, if you will have it bound at the ends with heavy cloth, the ends will not curl. By pulp composition we presume you mean one of the various magnesia composition floorings, and we are afraid that if you are going to put the runner down on a composition floor already laid with smooth surface, you will have difficulty with the battleship linoleum. You know that comes 6 feet wide, almost wide enough for the full hall, and, if it is of less width than that and you have to cut it, you will find it difficult to fasten it to the composition floor; in fact, to get a good holding surface for battleship linoleum, it ought to be laid on rough cement and sealed with a special cement that comes for the purpose. We doubt whether you would find it very satisfactory to attempt to fasten battleship linoleum to a smooth floor unless you carried it the full width of the floor. If your building is not up yet, we shall be very glad to give you a little sketch for your architect that will permit him to prepare for this battleship linoleum runner that will save you an immense amount of trouble for many years without any further handling.

The Per Capita Cost

To the Editor of THE MODERN HOSPITAL:

I shall be very glad to receive, either by personal letter or through your columns, an answer to the following question, which, as I know, is somewhat a disputed one, and that standard methods perhaps have not yet been established. What is the correct method for determining the cost per capita per day? Should equipment and initial cost of buildings, or any future additions to equipment, additional repairs, or alterations be included in that cost?

If you can give me specific information, as well as the proper method for that determination, I shall be very greatly obliged. A WESTERN HOSPITAL.

Your problem concerning the per capita cost of patients per day is one of the most insistent and difficult problems before the hospital people of this country at the present time, and no standards have been settled on. There are no means of making comparisons at the present time between any two institutions, and it seems a herculean task to adjust the matter so that comparisons could be made to mean something. For instance, a group of physicians put in their own money to build, equip, and operate a sanatorium, or they organize a stock company and sell stock for the purpose; this initial expenditure must be accounted for, and, as the interest must be paid annually, it must become a part of the operating expenses and must be figured so. Another hospital gets up a subscription list, creates a board of trustees, raises a sufficient fund to build the institution, and establishes an annual subscription list to maintain it. There are no interests to be paid on this fund, and these hospitals do not figure the initial investment as a part of the per capita cost of patients.

And even if every expense, including the interest on the money invested, is figured in, there is another point that remains unsettled—viz., the amount of service given to patients. One hospital has a comprehensive and adequate x-ray outfit, a first-class pharmacist, a good dietitian, a physical therapist, a good pathological department, and all these departments have high-class and high-salaried heads, and they give this service to their patients, while another hospital has none of these scientific departments and is nothing more nor less than a boarding-house for the sick. How can you compare the per capita cost per day of these two institutions? You cannot measure cured patients in terms of money, and you cannot measure service to your sick in terms of dollars and cents.

We think if we were you, we would not try to reduce our per capita cost to the lowest possible point, but would rather increase our service and give more to our patients. We are morally certain that the support of your hospital can be made adequate in proportion to the kind of service you give. If it is a hospital that is conducted for profit, then its fame must extend because of the high order of service, its popularity grow and its income increase. If it is an institution which the public is asked to support by annual contributions, then your subscription list must grow in proportion as your patients go away satisfied and cured, and in proportion as your doctors realize the high order of service you are giving to the sick.

We think one of the most sordid things in the social life of our time is our growing tendency to figure the care and comfort of our sick in terms of dollars and cents; but even if that were a proper method of establishing the value of an institution, and if we were capable of making a sufficiently close analysis to be effective, we would find that, even in terms of dollars and cents, good scientific care of the sick was a paying proposition because well people are assets in a community in proportion as they have an earning power, and sick people are a liability in a community, not only for their keep, but for the absence of earning power, and these things are in a final analysis capable of interpretation into money.

Some years ago the mayor of one of the large cities in the country boasted in an address of welcome before the American Hospital Association that the municipal hospital in his city was caring for its patients for 99 cents per day. Someone, in replying to the mayor's address, said he regarded it as a most shameful admission that the mayor had made, and that, far from being something to be proud of, he should consider it a disgrace that a community as rich as that city should be depriving its sick of adequate care by cutting the cost of operation of its hospital to a point that could not possibly permit decent service. We cite this incident because it is a case in point, and we think it would be a disgraceful thing for any institution, no matter what its form of organization, to give any such service as these low figures must mean, and such institution ought to be closed up by the police power of the community in order to save sick people the extraordinary hazard of submitting themselves and their lives to its care.

As we said, there are no standards of routine practice in regard to figures, and we are trying to get at some figures now. If it can be done, the matter will be reported to the American Hospital Association convention, to be held at Philadelphia.

Miss Marie DeLong, of Roodhouse, Ill., has succeeded Mrs. Mary Chandoin as superintendent of the J. C. Hammond City Hospital at Geneseo, Ill.

HINTS FOR HOSPITAL SUPERINTENDENTS.

The superintendent should carefully scrutinize every requisition for supplies coming from the various department heads. Those on whose shoulders rests no responsibility in connection with the payment of the bills are not infrequently careless and extravagant in making out their requisitions for supplies.

Success in hospital finance demands, as its maximum requirement, that the hospital's expenses shall not exceed the hospital's available income. Because of the failure to meet this requirement, too many of our hospitals are continually in "hot water" financially. They are unable to make needed additions and improvements, they are unable to take advantage of the various markets for supplies at times when purchases may be made at a distinct saving, they are unable to take advantage of cash discounts on purchases—which means a considerable item during a year—and too frequently they are in bad odor with those from whom they purchase their supplies because of their slow and unsatisfactory methods of paying for their purchases. No hospital having a record for the slow payment of its bills can hope to buy to the best advantage. The incurring of obligations without a certainty of being able to meet them when they become due does not represent either successful finance or common honesty. Hospital efficiency must depend on the possession of the funds necessary to meet the increasing calls that beset on every side the ablest and most conservative management, caused by the constant changes and advances in hospital standards, in order that the hospital may in every department be kept abreast with the latest professional and other knowledge. It is a wearing struggle to strive to maintain high standards of efficiency without the necessary means of support. Whichever way we turn, we find successful finance appearing as an essential requisite in the attainment of the highest order of hospital efficiency.

Organize your purchasing department on a scientific basis, and run it on the same general lines as a like department would be run in an up-to-date metropolitan hotel, a self-supporting club, or a first-class restaurant. Don't buy at random; know your wants and purchase accordingly. Overestimating means unnecessary loss of interest on money invested, additional risk of depreciation, and storage expense. Underestimating means, in the purchase of supplies, additional orders, with loss of the advantage in price as well as extra haulage expense; merchants are always reluctant to do something for nothing.

Delegate your authority, and see that proper reports of previous consumption are kept in an up-to-date manner, and then reduce the business to a per-capita basis. Information of this kind, when kept by an adequate system, is always at your finger ends and places you "one think" ahead of your purchasing board; you will use it for comparative estimating, and from it you will formulate your standards.

If the size of your institution warrants a purchasing agent, see that he is alert, listens to complaints, and has sufficient brains to conduct a like business on a paying basis. The ideal agent is the man who has the happy faculty of being able to accommodate his special senses to agree with those to whom he must cater.

One of the most annoying elements with which many hospital superintendents have to contend is the incompetent board or committee member. Too little care is exercised by most hospitals in selecting these officials, and, as a result, the average member of the board of trustees and of the various committees possesses but little, if any, practical knowledge regarding the needs of a hospital or of approved practical methods of hospital management. It is too frequently the case that women of more or less social prominence are elected to these positions, on the supposition that they will give the hospital an advanced standing in the community, and that they will be able to bring additional financial support to the hospital. It is a pretty well established fact that in most instances women of this character are inclined to be dictatorial in their methods, and this, added to their almost absolute lack of practical knowledge regarding hospital administration, makes the position of the superintendent at times most trying and disagreeable. Occasionally the superintendent, if a person of strength of character and tact, can master the situation, but too often the lines of least resistance are followed—and the hospital suffers in consequence. Taking into consideration the composition of the average hospital board, the problem of how to effectually remedy this defect is not easy to solve; it will probably remain a matter with which each individual superintendent will have to wrestle—the strong superintendent will win out, at least partially, and the weak superintendent will, after a period of discouragement, fall by the wayside. It might not be a bad idea were hospital superintendents to apply to this problem something of political tactics by endeavoring to bring about the election of board members more nearly naturally fitted for the needs.

Recently the question of marking washable fabrics came up in a certain hospital, and the reasons for marking fabrics and the question of markings to be done were discussed. The old way of marking fabrics—that is, by the use of a piece of tape marked with indelible ink and then sewed to the fabric—came in for round denunciation, not only because of the great amount of work entailed in connection with this sort of marking, but on account of the unsatisfactory nature of the marking itself. An immense amount of care has to be used to write on a piece of cotton fabric so that it will be legible and remain so. An ordinary sewing woman or one of the downstairs employees cannot do this work. It requires one with some education and artistic culture and taste, as well as one who is painstaking and careful, and such a person is not paid to do work of that sort.

Then the question of what should be included in the marking was discussed, and it was pretty definitely agreed that the name of the hospital, the place in the institution where the piece was to be used, and the exact date that it went into service, should all be on the marking. Every time a hospital buyer goes out to buy sheets or spreads or blankets, or linen or cotton goods, she will be offered fabrics that she has never used before; sometimes these fabrics will look so good and will be so highly recommended, and will carry so evidently the hallmark of quality, that they are purchased even at an increased price over what other and better known fabrics could be bought for; then later on these fabrics, like many people in this world, prove not to wear well. How are we going to know just what goods it is that are wearing out unless we have a mark on them that will tell us immediately, so that we can go to our buying files, ascertain the brand, the house from which purchased, the price and the date at which the goods went into service? "All that glitters is not gold."

TO PREVENT AND CURE HEART DISEASE

New Association Inspired by the Burke Foundation in New York—Some of the People and the Work It Proposes to Do

The Association for the Prevention and Relief of Heart Disease, organized and incorporated in the year 1916, gives needed recognition in concrete form of the magnitude of the heart disease problem, the increasing medical, economic, and social bearings of which are becoming known as of first importance. According to public health statistics, more people in New York city die of heart disease than of tuberculosis, and the death rate from heart disease is increasing steadily from year to year. The management consists of the following persons:

Fig. 1. A golf tournament, at which prizes are given. This is an excellent game for convalescents.

Board of Governors.—Mr. Bailey B. Burritt, Dr. Hubert V. Guile, Dr. S. Josephine Baker, Miss Mary E. Wadley, Mr. Ray Morris, Dr. Nathan Brill, Dr. Frederic Brush, Mrs. Linzee Blagden, Dr. Lewis A. Connor, Mr. W. Frank Persons, Dr. Haven Emerson, Mr. Morris Waldman, Dr. N. Gilbert Seymour, Dr. Alexander Lambert, Mr. Chas. Burlingham, Jr., Miss Ruth Morgan, Dr. Nelson L. Deming, Dr. Warren Coleman, Dr. Walter B. James, Mr. Thomas W. Lamont, Dr. Robert Halsey, Dr. John W. Brannan, Dr. Lee K. Frankel, Dr. T. Stuart Hart, Mr. William H. Wheelock.

Officers and Committees.—President, Dr. Lewis A. Connor; vice-president, Dr. T. Stuart Hart; secretary, Dr. Nelson L. Deming; treasurer, Mr. Ray Morris. Executive Committee.—Dr. Robert H. Halsey, chairman; Dr. Haven Emerson, Dr. Hubert V. Guile, Mrs. Linzee Blagden, Dr. Frederic Brush. Committee on Relief.—Dr. Frederic Brush, chairman; Dr. Hubert V. Guile, Mr. Morris Waldman, Mr. Chas. Burlingham, Jr. Committee on Prevention.—Dr. Robert E. Halsey, chairman; Dr. Walter B. James, Dr. Theodore Barringer, Jr., Dr. Alexander Lambert, Dr. Warren Coleman. Committee on Publicity.—Mrs. L. Blagden, chairman; Dr. Haven Emerson, Dr. Frederic Brush.

The purposes of the association are briefly outlined in the following program:

Gather data from wide sources, and arrange for its practical application in education, occupation, and social welfare.

The central office to serve as a clearing-house and information bureau.

Study and develop occupations and vocational guidance for cardiacs (main problem in relief) in standard trades and situations, as well as in special lines as already begun. Take formative interest in workman's compensation, insurance, and like problems peculiarly affecting cardiacs.

Assist in the establishment of more cardiac classes (which have proved high efficiency in their modest beginnings) in appropriate districts, and extend and correlate their efforts.

Constantly work for the prevention of heart disease through the dissemination of information and the application of recognized preventive means (as in the increased facilities for post-rheumatic, throat, dental treatment, etc.).

Organize cardiac convalescence to provide larger opportunities in existing institutions (especially for youth) through better selection of patients, standardized long-term care, with occupation, etc.

Assist in coordinating the various efforts in this field as made by health department, school, cardiac classes, special investigators, the "Trade School for Cardiacs," etc.

Encourage the setting up of branch or similar associations.

Funds necessary to carry on the central office work are fairly provided for the first year by the Burke Relief Foundation, but additional support is needed for important extensions of effort. Memberships are established with the following dues: active membership, $3; sustaining membership, $10; a supporting membership is also available. Checks or money orders should be made payable to Mr. Ray Morris, and should be sent to the executive secretary.

Central office, 340 East Twenty-sixth street (near First avenue). Hours, 9 to 11 a. m.

MISS M. L. WOUGHTER,
Executive Secretary.

Fig. 2. Patients at one-hour shifts, the aim being not merely to fatten, but to toughen for life.

REPORT OF THE COMMITTEE ON RELIEF OF THE ASSOCIATION FOR THE PREVENTION AND RELIEF OF HEART DISEASE

The following lines of effort are chosen, from the very wide field, for immediate applications of relief in heart disease:

FIRST—OCCUPATION FOR CARDIACS, THE MAIN PROBLEM IN RELIEF.—(a) School children; vocational guidance, early selection of suitable occupations, through cooperation of school nurses and others with the special cardiac clinics and the office of this association.

(b) Adults under supervision of social service mainly. (1) Adapting present occupation to the physical requirements of the patient; (2) changing occupation; (3) teaching a new occupation—success in this depends on proper selection of cases, freedom from anxiety, hygienic surroundings, rest when needed, and the chance of a work in which manual and mental dexterity are substituted for physical exertion, as exemplified in the Trade School for Cardiac Convalescents; (4) establishing of the handicapped in a small self-supporting business.

SECOND—CARDIAC CLASSES.—To be established, in connection with hospitals when possible, in appropriate districts. Patients to be referred from hospital wards, dispensaries, schools, department stores, and other commercial enterprises having medical examination, the National Guard, the various city departments, insurance companies, etc.

Duties of the Cardiac Clinic, divided into medical and social.

Medical service to cover: (1) Constant supervision of the patients, with attention to rheumatism, teeth, tonsils, sinuses, infective foci anywhere, chorea, syphilis, alcoholism, nerve and mental strain; (2) diagnosis of heart disease; (3) estimation of cardiac efficiency; (4) examination of applicants for convalescent homes; (5) assistance in the selection of suitable occupations.

Cardiac Social Service includes: (1) Referring patients to the clinics; (2) follow of hospital, dispensary, and convalescent cases; (3) study of occupations and placing therein; (4) home convalescence and betterment of home and hygienic conditions; (5) temporary financial aid.

THIRD—MORE OPPORTUNITY FOR CARDIACS IN CONVALESCENT INSTITUTIONS.—Through careful selection of patients (mainly by cardiac classes), thus obtaining (1) much needed short periods of rest and frequent prevention of decompensation; (2) long-term convalescence, for those recovering from severe breaks, where the method of living must be radically changed, even to the teaching of new occupations in selected cases.

Fig. 3. Boys from the boys' branch taking down an old house, and to rebuild with the material.

FOURTH—PERMANENT INSTITUTIONAL CARE.—Large numbers of cardiacs, known as third-stage cases, have repeated breaks in compensation and possess little or no economic value to the community. About 50 percent of their time is spent in hospitals, and the remainder in losing the slight gains thus made. They are too chronic for the hospital, too serious for ambulatory treatment in cardiac class or dispensary, too uncertain for the convalescent home. They are fit only for permanent institutional care. Some economic values are often latent in these persons if suitable occupations are provided within the institution, with sales outlet for the product arranged. Such institution could never be more than partially self-supporting.

The Committee on Prevention has planned its work under three main heads:

FIRST.—To investigate and collect the available data of the cause of heart disease, whether arising from (a) congenital defects, or (b) subsequently acquired from (1) infections in childhood, as the rheumatics, emphasizing particularly the importance of this class, as well as the syphilitic group of adult life; (2) intoxications; (3) improper modes of life and work.

SECOND.—To publish the established facts concerning the causes of heart disease for the information of (a) physicians through (1) weekly bulletin New York health department, (2) medical press, (3) meetings; (b) the laity through (1) schools, (2) lay press, (3) meetings.

THIRD.—To devise methods of prevention founded on the demonstrated causes. (a) Establish cardiac classes. (b) Cooperation for (1) better hospital management of cardiacs; (2) better dispensary service for cardiacs; (3) betterment of various unfavorable conditions; (4) more and better dental clinics; (5) better operative work in throat clinics. (c) Social worker to (1) visit homes; (2) advise concerning children and adults; (3) find suitable occupation; (4) arrange proper convalescence.

FOLLOWING UP INFANTILE PARALYSIS

New York Organizes to Give After-Care Following the Present Epidemic

The most serious aspect of the poliomyelitis epidemic which visited the city of New York with a marked impression about the latter part of May, and whose persistency has netted to date some 8,500 cases, has been met by the health officials and the leading members of the profession of New York with a degree of foresight and precision that must inure to their credit.

As soon as the scourge began to assume proportions, it was apparent that plans for the treatment of the victims during their acute stage was not the only matter to be thought of. Those gentlemen who are held responsible, to a very large degree, for the well-being of the citizens of their community readily realized that, when the acute stage passed, it would be of the utmost importance to see that all patients receive such after-care as would prevent, as far as possible, crippling deformities.

Dr. Haven Emerson, commissioner of health of the city of New York, impressed with the necessity of systematically arranging for the after-care of infantile paralysis victims, summoned to his office on August 7 a group of recognized orthopedic surgeons, representatives of orthopedic dispensaries and hospitals, superintendents of social service agencies, and heads of charitable institutions in the city for conference. This body of men and women, assembled at that meeting, had presented to them the single proposition, Shall the thousands of youngsters, ranging in ages from 3 months to 10 years, who are now being rapidly discharged from the quarantine hospitals, remain permanent paralytics and be allowed to grow into useless manhood and womanhood?

Without much ado an organization was effected, to be known as the New York Committee for the After-care of Infantile Paralysis Cases, and Dr. Thomas J. Riley, of Brooklyn, was chosen chairman. Plans were perfected, outlining the scope of the work. Dr. Donald E. Baxter, eastern representative of THE MODERN HOSPITAL, was appointed director and will assume general charge of all after-care work. A suite of offices were selected at 289 Fourth avenue, Manhattan, New York city, and furniture and incidental equipment installed. In accordance with the plans, a registry was established, containing a record

of all cases of infantile paralysis in the city, and suitable methods were devised to keep a record of the after-care.

A bureau of advice and information was also created, which will gratuitously advise as to agencies and methods of after-care treatment.

The city has been apportioned tentatively into appropriate districts, and the cases are being grouped into the districts so as to secure the best treatment and care without the overlapping of agencies or the neglect of any case.

The following institutions, as enumerated by the New York City Board of Health, are recommended to patients needing after-care:

MANHATTAN.—Hospital for Deformities, 1917 Madison avenue; days, daily except Sunday; hours, 1-5 p. m. Hospital for Ruptured and Crippled, 327 East Forty-second street; days, daily except Sunday; hours, 1-3 p. m. New York Orthopedic Hospital, 420 East Fifty-ninth street; days, daily except Sunday; hours, 1:30 to 3:30 p. m. Herman Poliklinik, 137 Second avenue; days, Monday, Wednesday, and Friday; hours, 1-3 p. m. German Hospital, Seventy-seventh street and Lexington avenue; days, daily except Sundays and holidays; hours 9-10 a. m. St. Luke's Hospital, One Hundred and Fourteenth street and Amsterdam avenue; days, Tuesday and Friday; hours, 1:30 to 2:30 p. m. Roosevelt Hospital, Fifty-ninth street and Tenth avenue; days, Monday, Wednesday, and Friday; hours, 9:30-11 a. m. Bellevue Hospital, Twenty-sixth street and First avenue; days, Monday, Wednesday, and Friday; hours, 10-12 a. m. New York Post-Graduate Hospital, Twentieth street and Second avenue; days, daily except Sunday; hours, 4:30-6 p. m. DeMilt Dispensary, Twenty-third street and Second avenue; days, daily except Sunday; hours, 2-3 p. m. Mt. Sinai Hospital, One Hundredth street and Fifth avenue; days, daily except Sunday; hours, 1-4 p. m.

BRONX.—Fordham Hospital, Crotona avenue and South boulevard; days, Tuesday, Thursday, and Friday; hours, 10-12 a. m. Lebanon Hospital, Westchester and Cauldwell avenues; days, daily except Sunday; hours, 3-4 p. m.

BROOKLYN.—Memorial Dispensary, 827 Sterling Place; days, Monday and Thursday; hours, 2-4 p. m. Polhemus Memorial Clinic, Henry and Amity streets; days, daily except Sunday; hours, 10-11 a. m. Brooklyn Hospital Dispensary, Raymond street and DeKalb avenue; days, first and third Monday, second and fourth Thursday; hours, 1-2 p. m. Jewish Hospital of Brooklyn, Classon avenue and St. Marks avenue; days, Monday and Thursday; hours, 10 a. m.-3 p. m.

QUEENS.—Flushing Hospital Dispensary, Carsons and Forest avenues; days, daily except Sunday; hours, 3-4 p. m.

BRONX.—Bronx Hospital and Dispensary, 1385 Fulton avenue; daily, 9-12 a. m.

BROOKLYN.—St. Mary's Hospital, Buffalo and St. Marks avenues: days, Monday, Wednesday, and Friday; hours, 2 p. m.

Each day the department of health of the city informs the committee of the cases that have been discharged from quarantine hospitals, or those that have had the quarantine lifted from their homes. Immediately the social service agencies are notified and nurses are sent forth to visit the patients. All cases of residents of the borough of Brooklyn, where the scourge hit heaviest, are referred to the District Nursing Committee, 80 Schermerhorn street, Brooklyn—Miss Elizabeth Stringer, superintendent. Cases in Manhattan below Twenty-third street and to the Battery are referred to the Association for the Care of Crippled Children, 105 East Twenty-second street, New York, and cases in the remaining part of Manhattan and in the three other boroughs—Bronx, Queens, and Richmond—are referred to the Henry street settlement, 265 Henry street, New York, of which institution Miss Bessie G. Amermann is superintendent of the nurses.

The nurses make a sufficient number of visits to enable them to provide for a permanent plan of treatment, and they then report to the committee on after-care, which in turn refers the patient to the orthopedic dispensary or hospital most conveniently located. It might also be mentioned that when it is planned to discharge a given case from a quarantine hospital, the authorities advise the parents of the child as to the necessity of properly caring for the child for at least one year. They are instructed to consult their family physician if he is skilled in the care of deformities, or visit the nearest of the orthopedic dispensaries in the city. A list of the orthopedic hospitals and dispensaries, together with consultation hours, is also presented to the parent.

The committee will establish in the very near future special clinics for the attendance of orthopedic surgeons and for the instruction of nurses and masseurs and other attendants in methods of after-care. The magnitude of the plans adopted by the committee is best illustrated by a statistical statement prepared by Dr. Thomas J. Riley, general secretary of the Department of Public Charities of Brooklyn and chairman of the New York committee on after-care of infantile paralysis cases. In his statement the number of survivors from the disease was estimated at 6,100 to September 1, and the total number of discharges up to November 1 at 4,333. It was figured out that the number of discharges would be 82 per week day; the estimated discharges from their homes from August 15 to November 1 would be 1,742 or thirty per week day. Of the cases needing after-care it was calculated that they would approximate two-thirds of the hospital discharges, or about 3,000; that one-fifth of the 3,000 should have convalescent hospital care, or 600, and four-fifths, or 2,400, should have dispensary care.

The convalescent beds needed by November 1 will be 600, and the cost to January 1, at $1.25 a bed, will be $67,500. The dispensary service at 60 cents per treatment, twenty-five treatments a month, to January 1, will cost about $108,000. The estimated cost of social service by nurses is $8,940; transportation of the crippled to January 1, $8,000, and the total cost to January 1, 1917, about $192,000.

DISPENSARY ROUNDERS—REAL AND IMAGINARY

A Study of Duplication of Patients Among Dispensaries in the Same City

BY MICHAEL M. DAVIS, Jr., Director of the Boston Dispensary, and DR. JOSEPH B. HOWLAND, Assistant Resident Physician of the Massachusetts General Hospital.

Among discussions of various topics in dispensary work, the so-called "rounder" has figured not a little. Stories are told at meetings of "Mrs. Jones," who liked to spend her time in clinics, and was found to be a patient at four different dispensaries at the same time. There are patients in private practice who get the "doctor habit" and run from one office to another. In private practice they must pay for their fun, so there is a natural motive to keep the habit down. In dispensary practice the patients spend time rather than money, and we may naturally expect that, human nature being much the same in all classes, there will be some individuals who will run the round of many clinics.

But what proportion of patients do this? How serious is the evil? We must not be misled by a few individual cases. The usual discussion of the subject does not deal with the *proportion*, which the case of Mrs. Jones and others like her bears to the total number of cases at the dispensaries.

An attempt has been made by the writers to set this question in its proper proportion. The large out-patient clinics of the Massachusetts General Hospital and the Boston Dispensary are only about a mile apart. A study was made last year according to the following method: 500 consecutive admissions of new patients at each institution were listed, the name, address, and other identifying information concerning each patient being copied from one of the regular records of the admitting officer onto sheets

or slips. These were then furnished to the other institution, and, after a period of between two and three months had elapsed, the record room force at the Boston Dispensary looked up the patients listed by the Massachusetts General and the record room force of the Massachusetts General out-patient department looked up the five hundred cases which had been admitted to the Boston Dispensary. Thus each institution found out how many of the five hundred patients which had come to the one had also been admitted as patients of the other.

The results are as follows: Of the 1,000 patients, 41 were found to have attended both institutions. This is 4 1/10 percent. Of the 41, however, only 12 went within a short period, so that they were receiving approximately simultaneous treatment. This is only 1 2/10 percent. The remainder, or 29, had not gone to the second institution until over six months had elapsed since their visit to the first one. In detail: 8 visited the second clinic between six months and a year after the first, 5 between one and two years, and those remaining, or 16, over two years.

It is readily seen that the proportion of cases at these two institutions that were receiving simultaneous treatment is negligible. Twelve in 1,000 is not enough to bother about, despite the rare appearance of an individual who is to be condemned for the so-called "rounding" habit.

Obviously the amount of duplication of work among dispensaries will depend considerably on the care with which patients are admitted. Both of the institutions concerned in this study have rules forbidding the acceptance of patients who are under treatment at another recognized dispensary (unless there is an officially acceptable ground for transfer). Both dispensaries also have organized admitting departments to see that this rule, which is clearly in the interest of the patients as well as the clinics, is actually carried out. The information gathered in this study certainly indicates that it is.

These two institutions are not exceptional, at least in Boston. One of the writers carried out a similar study in 1913. Through the cooperation of the administrative heads of the Massachusetts General Hospital, the Boston Children's Hospital, the Infants' Hospital, and the Boston Dispensary, 500 consecutive cases of children admitted to the out-patient departments of the first three of these institutions during the first few months in 1911 were compared with each other. In no case was there more than 2 percent of overlapping, and this was in the case of two of the institutions which at that time had their out-patient clinics very near to each other—within a stone's throw, in fact. The amount of overlapping between the other two institutions was not over 1 percent.

The entire group of 1,500 cases of these children at the three institutions named was then compared with the whole number of children who had been treated from 1911 to 1913 in the Boston Dispensary clinics (over 25,000 in number). The duplication here, in spite of the fact that three years had elapsed during which visits might have been paid at the Boston Dispensary by these children who had come to the other institutions three years before, was only 5 percent. The amount of simultaneous treatment could not have been more than a fraction of 1 percent.

Mention may be made of one further study. The Mt. Sinai Hospital, of Boston, has until recently conducted a dispensary clinic at a location quite near the Massachusetts General and within walking distance also of the Boston Dispensary. This clinic was comparatively small—only an average of about 50 visits daily. One would naturally expect that, with a clinic dealing largely with a local problem, there would be a considerable proportion of cases who would go to larger institutions for special diagnostic service and for other reasons. The management of the Mt. Sinai Hospital had a study made, following the same methods pursued by the writers of this article. Five hundred cases were taken from the records of the Mt. Sinai Hospital in consecutive order, these cases covering a period of about six weeks beginning in December, 1914.[1]

These 500 cases were then looked up in the records of the Massachusetts General Hospital and the Boston Dispensary. Of them, 62 cases, or 12 percent, received treatment at the Massachusetts General Hospital, and 20 cases, or 4 percent, received treatment at the Boston Dispensary, a total of 82 cases, or 16 percent. But only 29, or a little less than 6 percent, were receiving treatment at about the same time. Thus, even in a local clinic, from which the number of cases referred to or going voluntarily to the larger out-patient departments may properly be considerable, the percentage of such cases is actually quite small.

It is highly to be desired that before the discussion or criticism of dispensary "rounders" assumes any large proportion in any community where there is much dispensary work, some of the local institutions should institute studies of this kind, so as to provide the discussion with some definite basis of fact.

A 24-room emergency hospital, said to be the only institution of the kind solely owned and operated by an industrial insurance company, has lately been opened at 484 East Jefferson avenue, Detroit, Mich., by the Michigan Workmen's Compensation Mutual Insurance Company. The equipment, which is said to comprise every modern facility for efficient emergency service, includes a portable x-ray outfit, which makes it possible to make plates for diagnosis without removing the patient from his bed. Another item is a giant eye magnet for the extraction of particles of metal deeply imbedded in the eyeball. Dr. D. L. Stilwell is superintendent of the hospital, and Dr. H. N. Torrey, surgical director. An out-patient department will be maintained.

The View Point Tuberculosis Sanatorium at Elm Grove, near Wheeling, W. Va., which has been closed for some time, will be reopened in the near future. The commissioners of Ohio county are to cooperate with the Ohio County Anti-Tuberculosis League in the support of the institution, having already appropriated $8,000 to pay for the care of the county patients.

In the Hospital

The doctor smiled, and said, "You may go home
Tomorrow;" and he looked surprised when I
Returned no answering smile. How should he know
The sudden shrinking of my tortured flesh
From all that "going home" implies to me?
I am so tired—so tired! And when I think
Of taking up the burdens that I dropped
When sickness bought for me a breathing space—
The grimy, odorous clothes, so hard to rub
To whiteness as I bend above the suds;
The food that must be bought, prepared, and cooked;
The constant struggle to keep up the rent,
So that our poor, cheap sticks of furniture
May not be set out on the public street.
(Ah, God! that fear looms chief of all my fears!)—
Then is it strange that I should weakly cling
To this white cot, this atmosphere of rest,
Where I may sleep, afar from vendors' cries,
And noisy brawlings from the flat next door?
I almost hoped this pain would end all pain,
And I should die, here in the hospital;
But no; the verdict's "Life!" I must "go home!"

FLORENCE VAN CLEVE.

—[New York Times.

[1]These data have been kindly furnished us by the courtesy of the trustees of the Mt. Sinai Hospital through Miss Gertrude T. Spitz, the investigator.